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BRITISH MEDICAL ASSOCIATION, TAVISTOCK SQUARE, LONDON, W.C.

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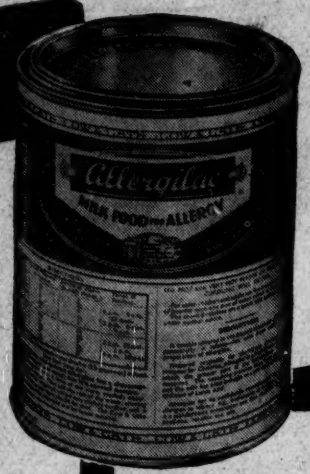
Milk Sensitivity



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LONDON SATURDAY JUNE 12 1943

THE BRIDGEHEADS OF CHILD HEALTH IN THE FIVE AGES OF CHILDHOOD*

BY

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At the present time there is much talk, and some planning, on the subject of child health. In a recent debate in the House of Lords on the Beveridge report Lord Dawson (1943) said: "The care of child health should take precedence over almost everything else at the present moment"; and Sir William Beveridge (1942) in his report has declared that "the small families of to-day make it necessary that every living child should receive the best care that can be given to it. The foundations of healthy life must be laid in childhood."

These general statements imply that child health is not only important in itself but affects the health of the population at all ages. Some years ago a statistical study by Kermack, McKendrick, and McKinlay (1934) found a correspondence between the falling infant and general death rates in Britain and Sweden, and showed that a regular maintained improvement in child health (measured by the infant death rate) was followed later in the same population by a corresponding improvement in the general death rate. The same biological law can be seen in operation in a country like Holland. In 1938 the infant death rate in Holland was the lowest in the world; in the same year in that country the other main categories of vital statistics—maternal deaths, stillbirths, and general deaths—also stood at record low levels. Thus the science of vital statistics confirms the common sense and experience of wise men, doctors, and laymen.

The same truth has been uttered by the poets, ancient and modern. Wordsworth, as one of the moderns, has sung, "The child is father of the man"; while Juvenal has a long priority over Beveridge—"Maxima debetur puero reverentia." All this testimony can be summed up by saying that child health is the main bridgehead of national health.

The Five Ages of Childhood

The period of childhood stretches from birth (and includes it) to puberty. This span of life must be divided into smaller periods or "ages" if we are to bring under medical management the whole term of child life; for these subdivisions of child life differ greatly in their character and therefore in the medical problems they present. Shakespeare in his seven ages of man has allotted two to childhood: "the infant mewling and puking in the nurse's arms," and "the schoolboy, with . . . shining morning face, creeping like snail unwillingly to school." If we are to apply the principles of child health to the period of child life we must give to it, not two, but five ages. Each has its pattern of healthy structure and function, and each its special dangers and disasters; to each belongs a differing set of clinical problems, physiological and pathological, and mental.

* The substance of an address to the Perth Branch of the British Medical Association.

The First Age

This is the first month, or neonatal period, and it includes birth. It is short; but it is crowded with dramatic events and is dangerous and deadly, and the measure of our control of it is the stillbirth and neonatal death rates. The total loss of infant life in the first age (stillbirths plus neonatal deaths) greatly exceeds that in the remainder of the first year. In Scotland, since the registration of stillbirths in 1939, the stillbirths and neonatal deaths have been more than twice the deaths in the remainder of the first year; and in England, with lower stillbirths and infant death rates, about the same relation exists. Without detailing the many and interlocked pathological conditions that cause this great mass of infant deaths in the first age, it is enough at this stage to divide them into two groups—those that belong to the obstetrician and that depend upon the care and health of the mother during pregnancy and labour; and those that belong to the paediatrician and that depend upon the care of the baby after birth. Certainly the first age is the most dangerous and difficult bridgehead of child health, and the one which medical practice has had least success in occupying and fortifying. The paediatric problems of the first age are mainly dietetics and protection against infection; and their successful management demands on the part of nurses and doctors detailed knowledge of the new and intricate processes of feeding and digestion, and of a strict technique against infection.

The Second Age

The second age extends from 1 to 6 months; and if the baby enters it with feeding and digestion well established, and under good hygienic management, it is likely to pass through it with little further trouble. It is the age of milk diet; and if that milk is human and taken from the breast of the mother the baby enjoys the double security of an ideal food and of protection from alimentary infection. Rapid physical growth occurs, and the first steps in mental progress are taken—simple muscular control of the body, the use of the eyes, and some awareness of itself and others (I and Thou).

The Third Age

The next age might be called the age of teeth and transition. It extends from about 6 months to beyond 2 years, beginning with the first teeth and ending with the appearance of the last molars. But it includes other important changes which make this period of child life critical and dangerous. The eruption of teeth is accompanied by additions to the simple uniform milk diet, with the possibility of digestive and nutritional disturbance. The great feat of standing and walking is achieved; this means weight-bearing by the bony skeleton, and requires a proper calcification of the bones. It is also the age of the major fatal infections of childhood—gastro-enteritis, pneumonia, tuberculosis, meningitis, and poliomyelitis; of measles, whooping-cough, and diphtheria; while the nutritional disorders, rickets and scurvy, are almost

confined to it. Apart from special immunization procedures, protection against these formidable hosts of infection depends mainly upon proper diet and upon a complete system of hygiene in the city, in the street, and in the home; but with powerful aid from sunshine and air.

The third age brings a quickening and a great advance in the intellectual and spiritual life. By means of speech and walking the intellectual horizon is extended. Speech is the sound-register of thought, and is the most powerful instrument for the formation and the exchange of ideas; it is indispensable for the child's understanding of its own self and for its adjustment to other personalities. By walking, the perceiving and registering mind is brought into contact with the wider range of objects beyond the nursery; and whether these be ugly or beautiful, monotonous or varied, the mind seizes them eagerly, enjoys and stores them.

The third age is the passage from infancy to childhood; it is the age of transition. It is a time fraught with physical danger and mental opportunity. In it the two main bridgeheads of child health are still dietetics and infection; and they are weakly held by preventive medicine.

The Fourth Age

The fourth age extends from 2 to 5 years. It is the age of freedom and of play; and this freedom covers the whole life, physical and mental. This freedom is not absolute; but it is much greater in the mental, and especially the imaginative, life of the child than in the physical life. The spontaneous activity of the imagination is now very great, and outruns control by the weak intellectual and critical faculties. It is a time of dreams, "fantasy," and fairy stories; and one which may give a permanent tone and colour to the child's attitude to life and in which the main patterns of conduct and behaviour may be laid down. The imagination is fed and nourished by everything he sees or hears; and his teachers are not only his parents and other official instructors and guardians, but no less his companions and playmates, and the whole world of objects that comes within his ken. He will get a sense either of security or of fear that may remain with him throughout life. Here Wordsworth's great saying is especially true of the mental life—"The child is father of the man"—and the problem of the nervous child and the solitary child begins in a wrong mental environment in the fourth age. The protection of the mental life at this age depends upon similar factors of mental health as in physical life in the first three ages—the *mental food* that is given, and the guards against *mental infection* that are set up. These three years of child life are years of destiny. Although they are the years of freedom and of play, the play is a rehearsal of the battle of life; and the kind of mental armour, weak or strong, that is forged at this time may determine the issue of the real struggle that lies ahead at school and in adolescence.

The physical life of childhood in the fourth age is relatively free of trouble, unless from chronic ailments of respiration and digestion carried over from an earlier age.

The main bridgehead in this age is mental health. The mind in its effort for health has to get control of the body and so acquire decent and comely habits of body. It has also the greater task of getting control of itself, and enters on the long struggle of self-adjustment and of adjustment to others; and this first essay in the discovery of self may determine the final place of the personality in the realm of ideas and in the world of social contacts.

The Fifth Age

This is the age of school: "shades of the prison-house begin to close upon the growing boy." The child is now put under training both of mind and of body: and it may be a rough and sudden change from the age of freedom and play. If the intellectual, the moral, and the physical discipline are harsh and uncongenial the child has always a way of escape, safe or dangerous, into the inner citadel of personality.

On the physical side, the second dentition adds a physical stress to the new mental tensions that have been created. Infection continues to operate, and rheumatic infection is a new danger; while tuberculous infection of the lungs may now reveal itself for the first time, and the banal infections of the upper respiratory tract transmitted from an earlier age may give much trouble. But on the whole the age of school is comparatively free from serious physical disease, with the one important exception of rheumatic heart disease.

In this age of school the training of the intellect has received quite properly the first place in the national system of education; but it is widely recognized that the training of the body in dexterity and posture, and the training in morals and character, deserve a larger place in the educational system than they have had up till now.

In the fifth age the bridgehead of health is education. A complete system of life training must cover all sides of child life—intellectual, moral, and physical—and brings all these parts under a wise and proportioned discipline. This discipline must be strict and thorough, and yet not offend the inner freedom and sanctity of the child's personality.

This is a rapid and sketchy outline of the periods of child life; but these divisions are essential if we are to understand the problem of child health and bring it under better control. This sketch of the five ages of childhood shows the range, complexity, and importance of child health. If Lord Dawson's pronouncement that "the care of child health should take precedence over almost everything else at the present moment" is right, it follows that child health should receive a first priority in the comprehensive medical service now being planned.

Our present standards of child health, measured by our national infant death rates, are unsatisfactory. If we set the infant death rates of our greatest towns in England and Scotland against those of the U.S.A., Australia, and Holland our figures show a still greater disparity (see Chart). In the planning of a

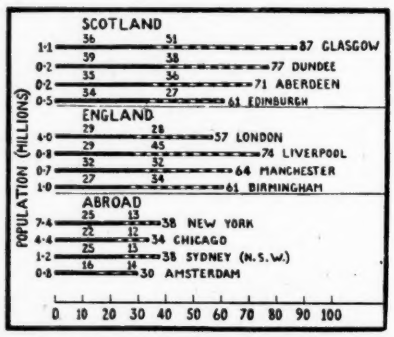
SCOTLAND
1·1 36 51 87 GLASGOW
0·2 39 38 77 DUNDEE
0·2 35 36 71 ABERDEEN
0·5 34 27 61 EDINBURGH
ENGLAND
4·0 29 28 57 LONDON
0·8 29 45 74 LIVERPOOL
0·7 32 32 64 MANCHESTER
1·0 27 34 61 BIRMINGHAM
ABROAD
7·4 25 13 38 NEW YORK
4·4 22 12 34 CHICAGO
1·2 25 13 38 SYDNEY (N.S.W.)
0·8 16 14 30 AMSTERDAM
POPULATION (MILLIONS)
0 10 20 30 40 50 60 70 80 90 100

Chart showing infant death rates in 1938 in great towns at home and abroad. The black lines represent death rates for the first month; the black-and-white lines those for the remainder of the first year.

better child health service the immediate urgent problem is infant mortality; and the great safeguards against infant death are management of prematurity, infant feeding, and protection against infection. These three clinical problems are included in the term "infant hygiene"; and infant hygiene must obtain a better place in our medical schools if we are to make a more effective attack on the strongholds of infant mortality.

Child Health in the Medical Schools and in Practice

If the standard of child health is to be raised in practice, the training of medical students and nurses must be improved. The range of child health is very wide; in the meantime let us restrict the examination to infant health and infant mortality, and examine the position as regards both education and practice.

Education

In 1932 the General Medical Council strongly condemned the inadequate teaching of "infant hygiene" in medical schools, and recommended "that in the Final Examination there should be a test of the candidate's knowledge of infant hygiene and of disease in children." That recommendation, made 10 years ago, has been more honoured in the breach than in the observance. Among the Scottish universities, Glasgow alone has given the subject a separate place in the Final Examination; and there are signs that some of the English universities will do likewise in the near future. But the fault goes deeper than an inadequate examination test. Very few medical schools are provided with the clinical material of healthy infants and children necessary for the study and teaching of the subject. This clinical

material is abundantly available in the child welfare clinics of the local authorities, and especially those attached to teaching maternity hospitals. What is needed is that all paediatric departments in medical schools should include infant and child welfare clinics as a part of their work in treatment, teaching, and study; that separate courses of instruction in child health should be given both to medical students and to pupil health visitors and midwives; and that this instruction should in the first place be mainly directed to the problems of infant health and should include the critical period of the first month.

In the U.S.A. paediatrics has long enjoyed the status of a major subject in the medical curricula. There has been a great fall in infant mortality in the leading American cities in the last 20 years, and it is reasonable to claim that this fall has been influenced by the high standard of paediatric teaching in the American medical schools. In most British medical schools paediatrics is still ranked as a "special" or minor subject. Until this great subject is given its right place in British medical education we cannot expect much improvement in its practice.

Practice

The general practitioner, the hospital practitioner or paediatrician, and the medical officers of the infant welfare and school medical services are at the disposal of mothers for the care and well-being of infants and children. The family doctor handles the problem at its centre, in the home, where the issue of health or disease is decided. He is well placed to make the greatest contribution to infant health, but complains that he is being ousted from it. The paediatrician is fully engaged in the problems of disease in children's hospitals—although a few paediatricians, attached to the welfare clinics of maternity hospitals, are beginning to take part in the health side of the problem. The medical officers of the child welfare clinics are busily engaged there, but form a semi-detached service. They see too little of the health problem in the home and are debarred from the intensive clinical study of the child in hospital. These three services have but slight contact with each other; their liaison is weak, and there is a good deal of recrimination between them. Indeed, each of them is open to attack: for the child welfare doctors and the family doctors have not received a proper training in child health; and the hospital doctors, expert in the problems of disease, have little experience either of home conditions or of the work of child welfare clinics.

It is agreed that this is a most unsatisfactory position; and a good deal of purposeful discussion is going on at the present time to improve it. In the draft interim report of the Medical Planning Commission (1942) plans are outlined to give general practitioners an increasing share in the work of welfare clinics. The British Paediatric Association has also recently brought together in conference paediatricians, general practitioners, child welfare medical officers, and medical officers of health to exchange views and to plan a co-ordinated health service for children. There are great difficulties to be overcome; and before a reorganized child health service can be brought into being there must be full and free discussion of its structure and conditions between all those who will operate it. What is needed is a service in which there will be two kinds of medical personnel—the family doctors carrying out the routine work in the home and the clinic, and the hospital physician advising and directing; while the health visitors will be at the disposal and under the supervision of both. This service cannot work without control; it must have administrative machinery, and must be "under authority." The general solution of this difficult problem of the controlling authority may be found in some local experiment of a co-ordinated child health service—some happy area where there are already friendly relations between the child welfare service, the family doctors, the children's hospitals, and the medical school.

The Fundamental Postulates of Child Health

The medical and nursing services are not the only elements in the complete plan necessary for child health. There are other fundamental postulates which must be provided: general sanitation on a high standard, achieving cleanness and counter-infection in the city, the street, and the air overhead; houses with liberal accommodation and suitable equipment for parents and children; an income-level sufficient to provide food and the other necessaries of life. The central postulate of all is the mother herself; in the last resort the health of the child depends upon the mother's health, her knowledge of her craft, and her devotion. The nurse and the doctor may give her health and knowledge; but the ultimate responsibility for the care of the child rests with the mother, and the centre of the child's life is the home. Day nurseries and nursery-schools cannot take the place of good homes. Minders, be they ever so mindful, cannot take the place of mothers. The family is a human society—the oldest, the smallest yet the greatest, of all human societies. If the family is to be secure and stable it must have all these things that have been mentioned; and it must also be governed by moral and religious laws as well as by the laws of economics, medicine, and hygiene.

Sir William Beveridge has given us his design and plan for national security and health, and has said that "the foundations of healthy life must be laid in childhood." Not unlike his plan, but with a theocratic as well as a democratic foundation, is the Psalmist's dream of a happy and secure society:

> That our sons may grow up as the young plants:
> That our daughters may be as the polished corners of the temple.
> That our garners may be full and plenteous with all manner of store: . . .
> That there may be no decay: no leading into captivity, and no complaining in our streets.
> Happy are the people that are in such a case:
> Yea, blessed are the people that have the Lord for their God.
>
> Psalm 144.

REFERENCES

Beveridge, Sir W. (1942). Beveridge Report in Brief, p. 46, para. 413, London.
Dawson, Lord (1943). *Times*, Feb. 25, p. 8.
General Medical Council (1932). Addendum to Minutes, p. 23, London.
Kermack, W. O., McKendrick, A. G., and McKinlay, P. L. (1934). *Lancet*, **1**, 698.
Medical Planning Commission (1942). B.M.A. Draft Interim Report, p. 26 London.

SOME ASPECTS OF THE CHEMOTHERAPY OF PNEUMONIA

BY

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That the value of chemotherapy in pneumonia has, in a general way, been proved is a reasonable assumption. The present analysis is put forward in the belief that certain aspects of the results obtained with sulphonamides are not sufficiently or generally appreciated.

The Value of Aetiological Diagnosis

It is well known that in a large proportion of pneumonias the causal organism is a pneumococcus, and that among pneumococcus pneumonias there is considerable variation in the severity of the illness caused by different serological types. It is not so well known that there are differences in the fatality rates when cases receive sulphonamides. In Glasgow, where over a long period of time the commonest type of pneumococcus has been Type II, carrying a high fatality rate, the results of chemotherapy have been less impressive than in the South of England, where the more benign Type I infection is prevalent. My own figures in two relatively large series of cases (Table I) may be cited. The material comprises all

TABLE I

Type	Pre-sulphonamide		Sulphonamide	
	Cases	Deaths	Cases	Deaths
I	172	13 (8%)	64	2 (3%)
II	198	58 (29%)	160	20 (12%)
III	27	4 (15%)	48	15 (31%)
V	—	—	8	1 (12%)
VII	—	—	26	4 (15%)

cases admitted in which the notified diagnosis of "acute primary pneumonia" was confirmed. The great majority conformed to the lobar type of consolidation. Sulphapyridine was given by mouth; after a preliminary dose of 2 g., treatment was continued with 1 g. four-hourly until the temperature had been normal for a period of two to three days. I have included the results obtained with chemotherapy in

Type V and Type VII infections, since clinically, in respect of course and severity, they behave very similarly to Type II infections.

I have been the more convinced of the accuracy of the picture to be drawn from these figures by collecting together a number of cases treated in different Glasgow hospitals (Anderson, 1940). In so far as Type I and Type II pneumococcus infections are concerned the result is the same: Type I infections are now usually mild, death resulting from some complicating condition often unconnected with the pneumonic process; whereas Type II infections are more severe and still carry an appreciable fatality rate. The results obtained in Type III infections are more variable; the most important factor here is the age of the person infected. In the older age groups infections with this type are severe and often fatal; but when younger persons are infected the illness produced by Type III pneumococci is milder and the fatality rate low. During 1939-40 and into the beginning of 1941 the Type III cases were predominantly among the older age groups and carried a correspondingly high fatality rate. These figures are, I believe, sufficient justification for stressing the necessity for the continuation of pneumococcus typing, even when the sulphonamides are being used.

The Age of the Patient

In analysing my own figures I have been impressed by the increased importance of age in the results obtained by chemotherapy in pneumonia. In Table II the total figures for Type I, II, and III infections have been divided into two groups, below and above 40 years.

TABLE II.—*Results in Respect of Age in Type I, II, and III Pneumococcus Infections*

	40 Years and Under		41 Years and Over	
	Cases	Deaths	Cases	Deaths
Pre-sulphonamide ..	288	40 (14%)	109	35 (32%)
Sulphonamide ..	151	6 (4%)	121	31 (26%)

It is clear that the reduction in fatality is much more impressive under the age of 40 than above it. If Type II infections alone are considered we find that the fatality rate under 40 has fallen from 22 to 4%, whereas in the older age group the fall is from 46 to 25%. Further, an analysis of 69 consecutive deaths from pneumonia of persons over the age of 11 years who received sulphapyridine has shown that no fewer than 56 (81%) of these patients were 41 years of age or over. In Cruickshank's analysis (1942) of cases of pneumonia treated in the Glasgow Fever Hospital from 1918 to 1928, only 40% of the deaths of patients above the age of 11 occurred in those over 45 years old: 68% of my deaths are in this age group.

Effect of Age and Bacteriaemia

Table III shows the results of an analysis of 168 cases examined by blood culture on admission to hospital.

TABLE III.—*Effect of Age and Bacteriaemia on the Outcome of Pneumonia*

Age	Non-bacteriaemic		Bacteriaemic	
	Cases	Deaths	Cases	Deaths
40 years and under ..	70	2 (3%)	20	3 (15%)
41 years and over ..	56	9 (16%)	28	13 (47%)

($\chi^2 = 14{\cdot}4$; P = less than 0·01)

This table contains some important data. The first inference to be drawn from it, of course, is the importance of the presence of bacteriaemia when treatment is begun. But the occurrence of bacteriaemia must be regarded either as a gain for the pneumococcus in its invasive capacity or as a loss for the host in his defensive capacity. There is some reason for believing that the risk of the development of bacteriaemia increases as age advances. May it not be that the relative failure of sulphapyridine in those over the age of 40 with bacteriaemia is due more to the impoverished defences of the host, which have allowed invasion to occur, than to the actual presence of bacteriaemia itself? Our present conception of recovery from acute infections lays much emphasis upon the causative "virus," its different attacking mechanisms, and the immunological changes which it causes in the human host. Just because it is more nebulous and difficult to define we tend to set aside the non-specific or tissue resistance, although we fully appreciate its importance in the host's chances of recovery.

Age, Bacteriaemia, and the Process of Resolution

One further set of figures may be supplied. In my hands, one of the most disturbing features of the case of pneumonia receiving chemotherapy has been the frequency with which convalescence is delayed by what might almost be termed the failure of resolution. Table IV shows the incidence of the condition in a series of unselected cases in respect of the two factors already discussed—namely, age and bacteriaemia.

TABLE IV.—*Age, Bacteriaemia, and the Incidence of Delayed Resolution*

	Cases	Cases with Delayed Resolution
Non-bacteriaemic	165	21 (13%)
Bacteriaemic	59	15 (26%)
40 years and under	151	17 (11%)
41 years and over	121	27 (22%)

The figures in Table IV show that the incidence of delayed resolution is much higher in those over 40 years and in those with bacteriaemia. Again it seems to me that it is not sufficient merely to say that this complication is occurring in the severer case. In the person over 40 years old and in those with bacteriaemia the "tissue resistance" may be lacking; it might be reasoned that failure to restore the inflamed lung to normal is likely to be due to a failure of tissue resistance. Many of the cases upon which I have performed a necropsy have been found to show upon their tenth or twelfth day a totally hepatized lobe, in which microscopically there is great increase of connective tissue, the fibrin being interwoven by strands of fibrous tissue.

Discussion

It is a natural tendency of the enthusiastic clinician to produce fatality rates as low as he can make them. Where the factors which influence the fatality rate are few little harm can result. But where, as in pneumonia, the factors which influence the fatality rate are many, then it is desirable that he should not undercolour the shadows. These figures have been selected to emphasize the fact that the introduction of the sulphonamide group of drugs has not removed pneumonia from that group of diseases which still requires intensive study. There is evidence that age now assumes an even more important place in prognosis than it did in the pre-serum or pre-sulphonamide days, and that the risk of death, or of a prolonged convalescence, is much greater in those who are past the middle stage of life. A close relation is also shown between outcome and the presence of bacteriaemia when treatment is begun.

These findings suggest that with the introduction of the newer sulphonamides the last word on the treatment of pneumonia has not yet been written. There apparently remains a broad age group in which the disease has a high relative prevalence and in which the individual's chance of recovery, once he is attacked, is less favourable. Nor can it be too greatly emphasized that the loss of a life between the ages of 40 and 60 years constitutes a severe economic blow; for by this time the individual's responsibilities in society and in family life are often greatest. A problem exists, and must be faced, in regard to the more effective treatment of these "bad risk" cases. In the light of our present knowledge three lines of approach may be discussed.

In the first place the combination of chemotherapy with type-specific serums or vaccines must be considered. Comparative trials of combined treatment and of sulphonamides alone have been reported from America (e.g., Plummer *et al.*, 1941). The results do not encourage a belief that added benefit is secured by combined therapy. My own final assessment of a small group of cases does not bear out the promise of the earlier results (Anderson and Cairns, 1940). Serum-and-drug treatment was given to 33 patients with Type II pneumo-

coccus pneumonia. In respect of those over 40 years of age the fatality rate was 25%; delayed resolution was noted in 29%. These findings confirm, on a small scale, the reports of the larger American studies. Vaccines have also been used in two series of Glasgow cases. Dick (personal communication) treated alternately two groups of cases in 1941-2—one with sulphapyridine alone, the other with sulphapyridine plus autogenous vaccines. In respect of fatality rates and incidence of delayed resolution there was no difference between the two groups. My own small experience with type-specific stock vaccines is similarly discouraging. Fleming (1939) has produced strong experimental evidence in support of the use of the combined methods of treatment as compared with either alone. The apparent failure of combined therapy in man must thus be earnestly considered; for since, alone, both achieve a beneficial effect the argument in favour of their combination seems a strong one. It may, of course, be that the fatality rate has been reduced to its lowest level by means of chemotherapy and that those who now die represent a non-resistant population in whom the infection runs a course too rapid for successful intervention. Such a view would be disquieting; but it should in its own way direct attention to the individual, underlying failure which permits lowered resistance to the infection. May it not be, on the other hand, that chemotherapy in man achieves its effect by a host-response different from that of specific serotherapy? The non-specific nature of the action of sulphonamides does not perhaps receive the attention it merits: one drug is successful in infections due to a wide range of micro-organisms. The finding in severe cases of pneumonia—many of which would previously have ended in death—that the return of the consolidated lung to normal is a long slow process suggests that tissue resistance is an essential adjuvant of chemotherapy.

It may finally be asked whether a more intensive course of chemotherapy during the preliminary stage of treatment might not be worthy of trial in these patients over the age of 40. The use of age alone as the criterion might be advocated, since it would seem reasonable that for beneficial effect intensive therapy should be used during the first 24 hours, before the results of blood culture could be known. It would, finally, seem especially desirable when the results of chemotherapy in pneumonia are reported that emphasis be placed upon the analysis of the cases in respect of the type of infecting pneumococcus, the age of the patient, and the presence or absence of bacteriaemia when treatment is begun.

REFERENCES

Anderson, T. (1940). *British Medical Journal*, **2**, 761.
—— and Cairns, J. G. (1940). *Lancet*, **2**, 449.
Cruickshank, R. (1942). *Control of Common Fevers*, p. 202, Lancet, London.
Fleming, A. (1939). *Proc. roy. Soc. Med.*, **32**, 911.
Plummer, N., *et al.* (1941). *J. Amer. med. Ass.*, **116**, 21, 2366.

RECEPTION TO PROF. SARKISOV

A largely attended reception was given on May 21 by the Society for Cultural Relations with the U.S.S.R. in honour of Prof. S. A. Sarkisov, representative of the Soviet Red Cross and Red Crescent, director of the Moscow Institute of the Brain, and vice-president of the Scientific Medical Council of the U.S.S.R. The Soviet Ambassador and Mme. Maisky were present, as well as many representatives of the medical services, British and Allied. The company were received by Mr. D. N. Pritt, K.C., and Mrs. Pritt, and a welcome to the guest of honour was spoken by Mr. Aleck Bourne. Prof. Sarkisov, who spoke in Russian, expressed his gratitude for this friendly welcome. Never in the history of mankind, he said, had the scientific and cultural values created by the centuries been exposed to such barbaric destruction as was taking place now. Therefore the growing tendency towards the establishment and widening of the collaboration between cultural, art, and scientific workers in the Soviet Union and the countries friendly to the U.S.S.R. was quite natural. He added that the Soviet intelligentsia, together with the whole Soviet people, were working to help the heroic Red Army against the invaders. As a representative of Soviet medical science he hoped to make scientific medical circles in Great Britain more closely acquainted with the work which Soviet medical men and women were carrying out both at the front and at the rear. He hoped also to become more closely acquainted with the work of the medical institutions of Great Britain in order that in turn he could make the Soviet public acquainted with them. He concluded with expressing his belief that the peoples of the two countries were bound not only in comradeship-in-arms but in an alliance for a long period after the war.

ENTERIC GROUP FEVERS IN PRISONERS OF WAR FROM THE WESTERN DESERT

WITH SPECIAL REFERENCE TO PROPHYLACTIC INOCULATION, JAN., 1941, TO FEB., 1943

BY

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Intelligence reports received during the latter part of 1940 indicated that fevers of the enteric group were of common occurrence among Italian troops in Libya. The first Libyan campaign—1940-1—resulted in the capture of unexpectedly large numbers of prisoners, and the available accommodation for their custody was at first stretched to its limit. Until this was adjusted the sanitation of the P.O.W. camps was inevitably of a makeshift type, and the complete lack of sanitary conscience which is common to the Latin races made control a matter of very considerable difficulty. In the circumstances it is surprising that a large-scale outbreak of bowel disease was avoided.

The 1940–1 Outbreak

A small wave of typhoid fever occurred in one of the camps, but by the end of January it was under control. This was achieved by the establishment of rigid sanitary discipline (and in justice it must be stated that the prisoners were quite easy to educate in these matters), by control of the "food-handling" personnel, and by inoculation. As regards inoculation, the supplies of British Army T.A.B. vaccine in the Middle East were inadequate for this unexpected demand, but a quantity of Italian vaccine which was captured along with other medical stores was used as follows. In the Geneifa camps, where the outbreak occurred, all prisoners who could not produce evidence of having been inoculated within two years were given two doses of 0.5 and 1 c.cm. of vaccine at ten days' interval: all others were given 0.5 c.cm. In the other camps, where only isolated cases had occurred, those who could produce evidence of having been inoculated within the previous nine months were not done, otherwise the dosage was similar.

The Summer, 1941, Outbreak

From Table I it will be seen that the incidence remained low until May, towards the end of which month cases of typhoid infection began to occur in considerable numbers. In June a major outbreak was in progress, which reached its peak in July, decreased in August, and came to an end in September. In June three cases of infection with *Bact. paratyphosum* A were identified, and in July there were more cases of this infection than of typhoid. This outbreak persisted through August and declined in September, to disappear in October. It will be noted that many cases were diagnosed on clinical grounds. The majority were treated in one hospital, and the volume of work was such that the laboratory was unable to carry out repeated tests on each case. It may be assumed, however, that the positive results obtained give a reasonable cross-section of the whole.

The cause of the outbreak need not be discussed here. A number of factors were contributory. It is probable that the infection was chiefly fly-borne, and it is of interest that no cases occurred among the staffs of the P.O.W. camps.

The prisoners at this time were, in the main, those captured in the 1940–1 campaign, who were inoculated in January. In the interval reinoculation with Italian vaccine had been carried out as it fell due. Large stocks of this vaccine had become available, and in June, when it was clear that an outbreak was imminent, all prisoners were reinoculated with a further two doses (0.5 c.cm. and 1 c.cm.) of Italian vaccine. This had little obvious effect, and in early August, when adequate supplies of British Army vaccine were received, two-dose inoculation with this preparation was again performed in the affected camps. Following on this, but not necessarily on account of it, the outbreak rapidly waned.

TABLE I.—*Incidence of Enteric Group Fevers in Axis Prisoners of War from the Western Desert*

	1941												1942												1943	
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb	Mar.	Apl.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Typhoid:																										
Actuals	28	2	1	7	9	26	86	20	2	—	—	—	—	2	2	1	1	4	5	4	2	—	61	39	2	1
%	Strength not available			·08	·11	·37	1·36	·39	—	—	—	—	—	·03	·03	·02	·02	·08	·13	·17	·01	—	1·68	·78	·04	·02
Para A:																										
Actuals	—	—	—	—	1	3	90	74	19	2	1	—	—	—	—	—	1	5	2	—	—	—	2	2	—	—
%					·01	·04	1·43	1·46	·49	·06	·03						·02	·11	·05				·05	·04		
Para B:																										
Actuals	4	1	1	1	—	2	3	—	—	—	—	—	—	—	—	1	1	2	—	4	2	2	29	10	1	1
%				·01		·03	·05									02	·02	·04		·17	·01	·01	·80	·20	·02	·02
Ent. Gp.:																										
Actuals	12	—	—	1	29	63	267	190	50	—	1	—	5	1	1	—	2	—	1	1	—	—	12	18	3	—
%				·01	·36	·90	4·24	3·76	1·28		·03		·11	·02	·02		·04		·03	·04			·33	36	·06	
Totals:																										
Actuals	44	3	2	9	39	94	446	284	71	2	2	—	5	3	3	2	5	11	8	9	4	2	104	69	6	2
%				1	·48	1·34	7 08	5·61	1·82	·06	·06	—	·11	·05	·05	·04	·10	·23	·21	·38	·02	·01	2·86	1·32	·12	·04

The Nov.-Dec., 1942, Outbreak

Thereafter all newly captured prisoners, on admission to a camp, were inoculated with two doses of Army T.A.B. as a routine measure, and the incidence ran at a low level, with a slight seasonal rise during the summer months of 1942, until the influx from the El Alamein battle started in Nov., 1942.

Of the 181 cases occurring chiefly among these fresh prisoners, and notified during the four months Nov., 1942, to Feb., 1943, inclusive, details are available regarding 171. In 90 of these the date of onset was 10 days or less after admission to the P.O.W. camp. Some of these were already ill when captured. In the remaining 81 the date of onset bore the following relation to inoculation: 44 cases occurred in 21 days or less after inoculation; 9 cases occurred between 21 and 28 days after inoculation; 9 cases occurred between 29 and 40 days after inoculation; 8 occurred in periods longer than 40 days; 3 were "old" prisoners. While these figures are suggestive, inoculation was only one of many measures adopted to deal with the situation, and cannot be accounted solely responsible for the decline of the outbreak. One fact which is clearly brought out is the prevalence of the disease among enemy troops. The hospital captured at Mersa Matruh contained two wards—one on the Italian side and one on the German side—full of cases of clinically diagnosed enteric fever.

Bacteriophage Types of Strains of Bact. typhosum

The bacteriophage types of those strains of *Bact. typhosum* isolated from prisoners that were sent for investigation are shown in Table II. It will be noted that all three outbreaks were caused by a different type. In Dec., 1940, to Jan., 1941, only Type G was found. In the summer of 1941 Type B4 and Type C were both present. At the same time a large number of cases of paratyphoid A infection occurred. In Nov.-Dec., 1942, the predominant strain was Type A, which had previously not been isolated from prisoners in the Middle East for over a year. Other types were also found, and 41 cases of paratyphoid B infection occurred among Germans.

TABLE II.—*Bacteriophage Types of Bact. typhosum among Prisoners of War: Dec., 1940, to Feb., 1943*

	Dec., 1940 to Jan., 1941	Feb., 1941 to May, 1941	June, 1941 to Sept., 1941	Oct., 1941 to Oct., 1942	Nov., 1942 to Feb., 1943
Type A	—	3	2	—	65
Type B4	—	3	16	1	1
Type C	—	—	64	—	1
Type D2	—	—	—	—	3
Type G	22	10	1	11	3
Imperfect V ..	—	1	7	4	5
No Vi antigen ..	1	1	29	1	1

These facts are of interest in that they indicate the widespread nature of enteric group infection among Axis troops.

Enteric Group Fever among British Prisoners in Enemy Hands

In comparison with this, information obtained from Capt. E. T. Gilbert, R.A.M.C., who was captured by the enemy at Gambut on June 23, 1942, and placed in medical and administrative charge of the P.O.W. camp for British and other prisoners at Sidi Hussein, near Benghazi, is of great interest and significance. Capt. Gilbert was unable to give exact figures, as he had no means of keeping written records, but there is no doubt the details are substantially correct. The original strength of the camp was approximately 16,000, the prisoners being British, South Africans, Indians, Free French, Mauritians, and a small number of New Zealanders and Australians. It rose to 24,000, maintained this level for about four weeks, and then fell to approximately 12,000 on Oct. 18, when Capt. Gilbert left the camp. It should be noted (see Table I) that this period, June to October, covers the months when the incidence of fevers of the enteric group is likely to be at its maximum.

The sanitation of the camp was primitive in the extreme. For some time the latrines were of the shallow-trench type. Flies abounded, and there was no means of washing (water ration, 1/2 to 1 water-bottle a day per man for all purposes). Almost at once an outbreak of dysentery started, which finally totalled between 11,000 and 12,000 cases in the four-months period. Despite the fact that circumstances appeared equally favourable for an outbreak of enteric group fever, no cases of a suspicious nature were observed during the same period. This cannot be taken to mean that none occurred, but the incidence at most must have been insignificant. This state of affairs was a matter of considerable surprise to Italian medical officers of the Benghazi Military Hospital, to which the more serious cases from the prison camp were admitted. They questioned Capt. Gilbert on the subject, and admitted to him that numbers of cases were occurring among Italian troops in the vicinity.

Comparison of Enteric Group Fevers in British and Axis Troops

Here, then, are two series of events which form a very striking contrast. On the one hand the Axis Forces have a constant high endemic level of fevers of the enteric group. Despite inoculation with their own vaccine an epidemic of considerable proportions occurred in the summer of 1941. Supplies of British Army T.A.B. were obtained and administered as the outbreak was on the wane. It ceased abruptly, and the endemic level thereafter remained low even during the "typhoid season" of the summer of 1942. The prisoners captured in El Alamein were heavily infected, but the outbreak was quickly stamped out. On the other hand the Allied prisoners at Benghazi, living in a camp in which sanitation was of a primitive type and conditions were such that a major epidemic of dysentery occurred, and where typhoid was rife among their captors, escaped apparently unscathed.

It is difficult to explain these facts except on the grounds that the Allied troops possessed an immunity which the Axis troops did not. If so, this may have arisen from the use of a more effective vaccine.

Comparison of British and Italian T.A.B. Vaccine

Two types of Italian vaccine were captured. One, of which only small quantities were obtained, bore the honoured name of Castellani. The other was a T.A.B. and tetanus-toxoid mixture (T.A.B.Te.), manufactured by the Istituto Sero-Terapeutico Nazionale, Naples. These vaccines were tested in parallel with British T.A.B. vaccine by mouse-protection test,

with the following results. The figures indicate survivors after 30 hours.

Test Dose	Control	British T.A.B.	T.A.B. Castellani	T.A.B.Te.
2 m.l.d. ..	0/5	3/4	4/4	3/4
5 m.l.d. ..	0/5	3/3	2/3	1/3
10 m.l.d. ..		3/3	0/3	0/3

Investigation revealed that the mouse in the British T.A.B. series which died after 2 m.l.d. was a weakly and emaciated specimen that should not have been included in the test.

These results show that, whereas the British T.A.B. vaccine is of the standard normally attained by vaccine made from strains rich in Vi antigen, the Italian vaccines have the limited protective power of a vaccine made from non-virulent strains. Owing to a shortage of mice it has not yet been possible to test the German vaccine, of which supplies have only recently been obtained.

Conclusion

In the absence of any other explanation—and it has been impossible to think of any other which would fit the case—it appears justifiable to conclude that the relative immunity to enteric fever enjoyed by British troops in captivity is attributable to the use of a potent vaccine. Similar immunity is not enjoyed by the Axis Forces, who seem to have a high endemic rate, and among whom an outbreak of considerable magnitude occurred despite inoculation with vaccine of Italian manufacture.

FAMILIAL IDIOPATHIC METHAEMOGLOBINAEMIA

WITH A NOTE ON THE TREATMENT OF TWO CASES WITH ASCORBIC ACID

BY

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Lurgan

It has been known for some time that ascorbic acid is related to haematopoiesis in human beings. The nature of the association is not clear. Dunlop and Scarborough (1935) showed that a rise in the number of red blood cells, a fall in reticulocytes, and an increase in haemoglobin followed when vitamin C was given to a patient suffering from scurvy, although the iron content of the diet was unchanged. Barron and Barron (1936) observed that ascorbic acid reduced the red cell count in rabbits suffering from polycythaemia induced by cobalt poisoning. It was thought that polycythaemia is caused by inhibition of the respiration of immature red blood cells and their expulsion from the bone marrow into the circulation as mature non-respiring cells. Kandel and LeRoy (1938) treated two cases of polycythaemia vera with large doses of ascorbic acid without altering the red cell count or haemoglobin level.

Hawley *et al.* (1936) found that sodium bicarbonate raised the renal threshold for ascorbic acid and reduced the amount excreted. In an investigation of the ascorbic acid metabolism in two cases of polycythaemia (Deeny, 1940) it was found that a comparatively low level in the blood was accompanied by the excretion of appreciable amounts of ascorbic acid. On raising the threshold with sodium bicarbonate, large doses of ascorbic acid caused clinical improvement in the two subjects. Impressed with these results, we believe that this treatment might correct a defect in a function of the red blood cells occurring in polycythaemia. One of us (J. D.) observed its beneficial effect in cases in which cyanosis indicated difficulty in maintaining a sufficient supply of oxygen to the tissues—as in congenital heart disease. Clinical changes characterized by improvement in the cyanotic colour and alleviation of symptoms occurred, but the results were somewhat inconclusive and difficult to measure accurately. In a search for subjects in whom objective changes could be demonstrated two cyanosed brothers were discovered who proved to be suffering from familial idiopathic methaemoglobinaemia.

Case I

A clerk aged 29 had been a livid blue colour since birth. There was no history of previous occurrence of the condition in his family. One brother (Case II) was cyanosed. His father, mother, two other brothers, and a sister were healthy and normal. The father died recently from cardiac disease, and a brother from whooping-cough at 6 months. The present subject had had measles, whooping-cough, scarlet fever, and chicken-pox in youth, and lobar pneumonia two years ago. He was in the Royal Victoria Hospital, Belfast, for three weeks in 1933, under Dr. R. Marshall, for investigation, and as a result of spectroscopic blood examination a diagnosis of methaemoglobinaemia was established. No cause for the condition was found, and treatment with potassium permanganate enemata did not improve him.

When we first saw the patient he stated that he felt moderately well, but was very constipated, and breathless on exertion. He could not take strenuous exercise, and noticed that his condition became more pronounced in cold weather. He was keenly aware of his colour, and as a consequence had become rather "nervous." On examination the skin of the face—including the ears and neck—the hands, feet, mucous membranes, and to a lesser extent the trunk, were a deep bluish colour. In contrast to the cyanosis usually found, there was no underlying reddish tint. The skin of his face was coarse and thickened. He was of medium height and slight build, and was moderately nourished. His heart was normal in size and rhythm, and no valvular defects were observed. B.P. 140/90; R.B.C. 5,900,000; spleen not palpable. Haemoglobin estimations carried out with the Dare haemoglobinometer were not satisfactory owing to the abnormal pigment present. The chest was moderately developed, but expansion was poor. No abnormality was found on percussion or auscultation. Mild dyspnoea was noted on exertion. All deep and superficial reflexes, and co-ordination and sensation, were normal. The tongue was moist, with white fur on a blue background; the fauces were congested. The abdomen was normal. Urine examination did not reveal the presence of any reducing or other abnormal substances. An estimation of the oxygen-combining capacity of his blood was carried out by means of the Barcroft method, and was found to be 13.2 vols. per 100 c.cm. (normal, approximately 20 vols. per 100 c.cm.).

Treatment was begun on March 30, 1942. He was given 50 mg. of ascorbic acid night and morning by mouth on the first day, then 100 mg. similarly the next two days, followed by 150 mg. twice daily thereafter. Sodium bicarbonate (2 drachms) was given each day at noon. On the eighth day, when he had taken a total of 2 g. of ascorbic acid, a sudden and noticeable change occurred in his colour, and on the twelfth day his complexion became natural. Since then he has continued with 300 mg. of ascorbic acid and 1 drachm of sodium bicarbonate a day, and has remained normal in appearance. The ascorbic acid was given in graduated doses, as it was uncertain what might result from any possible rapid increase in available oxygen. In this respect the only significant feature was a sudden attack of vertigo on the third day of the treatment, which lasted for 30 minutes, but passed off without ill effect. After one month the oxygen-combining capacity of his blood was 22 vols. per 100 c.cm.

Case II

A shop assistant aged 19. The condition was possibly present at birth, though only to a slight extent; but it became much more pronounced at the age of 11 years. He is not so deeply cyanosed as Case I, is much more strongly built, is athletic, and plays hockey for the local team.

The dramatic change in Case I brought about by the treatment was of such interest that the two men were shown to Profs. H. Barcroft and D. C. Harrison of Queen's University, Belfast, and Profs. J. M. O'Connor, E. J. Conway, and F. Kane of University College, Dublin. As a result it was arranged that Profs. Barcroft and Harrison and Dr. James McMurray should carry out certain investigations during the course of our treatment of Case II. (Details of these investigations will be

published elsewhere.) The following is a brief summary of their report:

The diagnosis of methaemoglobinaemia was confirmed by spectroscopic examination of the chocolate-coloured blood. This diluted blood showed an absorption band in the red waveband 632–634 mμ, which disappeared on adding ammonium sulphide. Sulphaemoglobin was absent. The methaemoglobin was intracorpuscular.

Case II was seen before treatment and about a dozen times after treatment began. The aim of each visit was the collection of data on the following: (1) The colour of the skin. Objective records were made by an experienced artist, who painted strips of canvas to match chosen spots on the head and hands. (2) Subjective symptoms. (3) The blood ascorbic acid by Deeny, Murdock, and Rogan's (1942) method. (4) The percentage of the total blood pigments in the form of methaemoglobin calculated from: (*a*) the oxygen-combining haemoglobin by Peters and van Slyke's (1932) gasometric method; (*b*) the total blood pigments by Rimington's (1942) method standardized with blood of known haemoglobin content (Peters and van Slyke's (1932) gasometric method). All determinations were done in duplicate. Some of the results were checked by an independent spectroscopic method. (5) The R.B.C. count. (6) The reticulocyte count.

Treatment began on the evening of May 4, 1942, with 100 mg. of ascorbic acid b.d.s., morning and evening, and 1 drachm of sodium bicarbonate at midday. On the evening of May 20 the dose of ascorbic acid was doubled. During the first month a striking change occurred in the patient's appearance. The slate or battleship blue of his lips and ears gradually disappeared, yielding to the normal reddish tones. The strips of canvas of the tint of the ear-tip, for instance, showed the gradual transition from blue-black to normal beyond any question. He felt great satisfaction that his appearance was now normal. Strenuous exercise was less exhausting.

The blood changes are summarized in the following table. The initial whole-blood ascorbic acid was 0.19 mg. per 100 c.cm. During treatment it rose eightfold in 3 weeks and became stabilized at a level of about 1.73 mg. per 100 c.cm.

Date	Blood Ascorbic Acid mg./100 c.cm.	Total Blood Pigments g./100 c.cm.	% Hb as MetHb	R.B.C. millions/ c.mm.	Reticulocytes per cent.
4/5/42	0·19	16·9	43		
100 mg. vitamin C b.d.s., and ʒi sodium bicarbonate given daily:					
7/5/42	0·29	17·7	40	5·8	
10/5/42	0·46	17·5	30	6·2	5·5
13/5/42	0·68	17·7	28		4·2
16/5/42	0·94	18·9	19	6·1	2·5
20/5/42	1·58	17·3	17	6·0	
200 mg. vitamin C b.d.s., and ʒi sodium bicarbonate given daily:					
23/5/42	1·64	16·5	15		
28/5/42	1·75	16·7	12	5·2	0·5
4/6/42	1·73	14·4	6	5·3	< 0·5
30/6/42	1·72	13·7	6	4·4	
13/1/43	1·52	14·75	9·5	5·2	0·25

During the first month, as might be expected from the disappearance of the cyanosis, the proportion of abnormal pigment fell sharply from 43% to 6%. After two months it was still 6% (0.8 g. methaemoglobin per 100 c.cm. of blood). The red cell and reticulocyte counts fell decidedly. This may have been due to the subsidence of a mild secondary polycythaemia stimulated by the diminished oxygen-carrying power of the blood.

The following observations were made on Case I on June 1, 1942, the 63rd day of treatment: blood ascorbic acid, 1.55 mg. per 100 c.cm.; 11% methaemoglobin (sulphaemoglobin absent); R.B.C., 5,080,000; reticulocytes, 0.5%.

Comment

These are the first cases of familial idiopathic methaemoglobinaemia described in Great Britain and Ireland. Abroad the disease has been definitely established in two families, and questionably in another two. Bensley, Rhea, and Mills (1938) reported cases in a brother and sister in Canada, who first became blue at the age of about 11. Their blood contained 5 to 10% of methaemoglobin. An interesting point was that the sister had eight normal children. Lian, Frumusan, and Sassier (1939) reported two brothers in France blue-black from birth with a 35 to 45% blood methaemoglobin, while three other brothers and one sister were alive and normal. A brother and two sisters—said to have been blue—died young. Both brothers had an increased red cell volume and a diminished liver function, which may have been signs of other hereditary abnormalities.

Hitzenberger (1932) reported the case of a mentally defective dwarf, aged 23, a "schwerarbeiter," born blue; 40% of his haemoglobin was in the aberrant form. There was a family history of two mentally backward dwarf brothers, who had died aged about 20, and who were said to have been blue. The cause of death was unknown. Another probable familial case was that of van Thienen (1933)—a woman aged 33, born blue, otherwise healthy. Her father was said to have been blue, but this could not be verified. Isolated cases of what was probably idiopathic methaemoglobinaemia have been described by Miller (1930), Dieckmann (1932), van Lier (1933), and Leiner and Minibeck (1935).

Those suffering from the disease usually have little or no physical disability, and first seek treatment for some other complaint. The blue colour usually dates from birth. Congenital heart disease is often suspected. Physical examination shows nothing abnormal in the cardio-pulmonary system. A sample of blood is then taken for examination for abnormal blood pigments. The blood is a dark chocolate shade which persists after it has been aerated. The spectroscope shows methaemoglobin. Methaemoglobin may of course appear in the blood for other reasons. Bensley, Rhea, and Mills (1938) classify methaemoglobinaemia as toxic, haemolytic, enterogenous, or idopathic. The toxic form follows the excessive use of acetanilide, antipyrine, phenacetin, etc. The abnormal pigment usually disappears 24 to 72 hours after discontinuing the drug. The haemolytic form may occur in infection by anaerobic bacteria, in eclampsia, in blackwater fever, etc. The plasma contains methaemoglobin. Enterogenous methaemoglobinaemia (intracorpuscular) occasionally accompanies severe diarrhoea.

At the time we began treatment of the two blue brothers we were unaware of Lian, Frumusan, and Sassier's (1939) paper, in which they describe the treatment of one of their cases with 100 mg. of ascorbic acid intravenously, daily for three weeks. They tried vitamin C because from the chemical relationship of methaemoglobin to oxyhaemoglobin it seemed possible that ascorbic acid might convert the former directly into the latter. A free translation of their conclusions reads: "It is absolutely certain that this therapy has been followed not only by complete disappearance of the functional symptoms (dyspnoea and headache), not only by sensation of well-being, of euphoria, but by remarkable diminution in the abnormal colour. At the same time the proportion of the pathological pigment dropped from 45 to 26% of the total quantity of haemoglobin. . . . An interruption of 10 days in the ascorbic acid treatment has been followed by a marked aggravation of the cyanosis and a rise from 26 to 35% in the blood methaemoglobin." They have not recorded any further attempts to treat the condition.

We have now observed the effects of treatment on our two subjects for a period of one year, and during that time both have had improved health and normal complexions.

Summary

Two cases of familial idiopathic methaemoglobinaemia are described.

This is the first time this very rare disease has been reported in Great Britain and Ireland.

A permanent blue colour of the skin, usually dating from birth, is sometimes the only symptom.

The findings of Lian, Frumusan, and Sassier (1939) that administration of ascorbic acid diminished cyanosis and methaemoglobinaemia are confirmed.

In our cases the skin colour became normal a few weeks after beginning daily doses of vitamin C and sodium bicarbonate by mouth. In one case methaemoglobin in the blood fell from 43 to 6% at the end of the fourth week of treatment. The change has been maintained in both cases for one year.

We wish to thank the Medical Research Council of Ireland for assistance; Profs. Barcroft, Harrison, and their associates in Queen's University, Belfast, for the effort and labour which their participation

in this work entailed; and Profs. O'Connor, Conway, and Kane, University College, Dublin, Dr. James McMurray and Dr. Robert Marshall, Belfast, for their interest, advice, and help.

BIBLIOGRAPHY

Barron, E. S. G., and Barron, A. G. (1936). *Proc. Soc. exp. Biol.*, N.Y., **35**, 407.
Bensley, E. H., Rhea, L. J., and Mills, E. S. (1938). *Quart. J. Med.*, n.s., **7**, 325.
Deeny, J. (1940). *British Medical Journal*, **2**, 864.
— Murdock, E. T., and Rogan, J. J. (1942). *Biochem. J.*, **36**, 271.
Dieckmann, W. J. (1932). *Arch. intern. Med.*, **50**, 574.
Dunlop, D. M., and Scarborough, H. (1935). *Edinb. med. J.*, **42**, 476.
Hawley, E. E., Frazer, J. P., Button, L. L., and Stephens, D. J. (1936). *J. Nutrit.*, **12**, 215.
Hitzenberger, K. (1932). *Wien. Arch. inn. Med.*, **23**, 85.
Kandel, E. V., and LeRoy, G. V. (1938). *Amer. J. med. Sci.*, **196**, 392.
Leiner, G., and Minibeck, H. (1935). *Wien. klin. Wschr.*, **48**, 1547.
Lian, C., Frumusan, P., and Sassier (1939). *Bull. Mém. Soc. méd. Hôp. Paris*, **55**, 1194.
Lier, H. W. van (1933). *Over de Parahaemoglobinaemisën*, Utrecht.
Litarczek, G., Aubert, H., Cosmulesco, I., Comanesco, V., and Litarczek, S. (1930). *Sang*, **4**, 188.
Miller, R. (1930). *Arch. Dis. Childh.*, **5**, 73.
Peters, J. P., and van Slyke, D. D. (1932). *Quantitative Clinical Chemistry Methods*, p. 263, Baltimore.
Rimington, C. (1942). *British Medical Journal*, **1**, 177.
Schwartz, A. S., and Rector, E. J. (1940). *Amer. J. Dis. Child.*, **60**, 652.
Thienen, G. J. van (1933). *Nederl. Tijdschr. Geneesk.*, **77**, 1086.

A NEW METHOD OF GRAFTING

BY

P. GABARRO

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In order that the principles of the new method may be understood it will be useful first to give a short review of the usual types of skin graft. According to the thickness of the graft four types will here be considered: (1) the thin Ollier-Thiersch graft, which has been described—not quite accurately—as only epidermic; (2) the intermediate or split graft, which contains the whole epidermis and a portion of the dermis; (3) a thicker graft of about three-quarters of the skin, which leaves just enough epithelial elements from the sweat and sebaceous glands for the epithelization of the donor area; (4) the whole-thickness skin, or Wolfe, graft.

In the main, two considerations regulate the choice of graft: the thicker the graft the better the quality of the skin obtained; and the thinner the graft the easier it "takes." The area from which the graft is taken should epithelize in less than 15 days if the graft is thin. In thick grafts epithelization may be retarded, and subsequently some scar reaction may spoil the site for further use as a donor area. In the Wolfe graft there is a complete loss of skin, which must be replaced. It will be seen, therefore, that the donor area has its limitations. The kind of graft to be used depends, too, on the local condition of the area to be grafted and on the general condition of the patient, and is not an easy matter to decide upon. One of the chief problems arises when the area to be grafted is very big and the donor area is limited. When the donor area available is small, or the local and general condition of the patient is poor and none of the above-mentioned grafts is considered advisable, use is often made of small rounded grafts, of which there are two types: the thin or Reverdin graft, and the thick or deep graft devised by Davies and commonly called the "pinch" graft. Both are obtained by the same technique. The latter is the one generally adopted in England.

The Pinch Graft

It is necessary to review the pinch graft for the better understanding of this article. It is usually a small graft (3 to 5 mm. in diameter), rounded, deep, and containing all the layers of the skin. To obtain it a needle is used to pick up a cone of skin, which is cut at its base with a knife. The same needle carries the graft to the recipient area. Usually the pinch graft "takes" in raw areas in which no other graft will properly do so. This is why it is so useful. Moreover, it is easy to carry out. Many reasons are given to explain why the pinch graft takes so easily. In my opinion, the main reason is that the grafts are so placed that enough room is left between them to allow of free discharge, and nothing intervenes between the graft and the recipient area. This is an application of the well-known principle of general surgery that no infected area will heal unless there is ample room for the discharge to escape.

From this consideration there arises a conclusion that is one of the main supports of the new method of grafting: *any graft will take more easily, and in poor raw areas, if there is enough room for discharge inside the whole area grafted.* Certainly, then, pinch grafts have many advantages, yet they have several very important disadvantages.

Disadvantages of the Pinch Graft.—(*a*) The donor area of a pinch graft is practically always spoiled as a further donor area for other types of graft. Numerous small scars or keloids are very common. (*b*) A big donor area is necessary if the pinch grafts are placed very close together—sometimes as big as the area to be grafted. (*c*) It is necessary to employ a large number of them, which may prove to be a very long and tedious job. (*d*) Because, through the instruments, contact is established between donor and recipient areas—very often slightly infected—infection may develop in the donor area. (*e*) Usually the site covered by pinch grafts consists of the good skin of the original pinch grafts surrounded by an area of fairly good skin; the rest is more or less keloidal tissue, in many cases with all the disadvantages of scar tissue.

The Ideal Graft.—It seems to me that if the pinch grafts were placed so close together that the distance between them was less than the possible easy spread of the grafts (from 6 to 9 times the original size of the pinch graft), the likelihood of the formation of good skin and quick epithelization would be much greater. Only experience can confirm this. If I am correct in my assumption, therefore, the ideal graft for the type of case mentioned must conform to the following rules:

1. Plenty of room must be left between the grafts for possible discharge.
2. The donor area must not be spoilt, so that it could be used again and again.
3. The graft should take easily—as well as or better than any other graft.
4. The technique must be fairly rapid in use and the number of grafts unlimited.
5. Contact, direct or indirect, must be avoided between donor and recipient areas.
6. The space between the grafts must be less than the possible easy and early spread of the epithelium.

Technique of the New Method

A graft of the desired thickness and from one-sixth to one-ninth of the raw area to be covered is cut from the donor area. It is placed on stiff sticky paper (I have been using the greasy and sterile paper supplied with boxes of "tulle-gras") or any other material of similar qualities, and skin and paper are cut in strips as thin as convenient (Fig. 1). The strips are again placed on the same type of paper, at the distances desired,

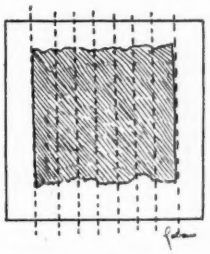

FIG. 1.—The graft, raw side up, is placed on sterile, stiff, sticky paper and cut into strips.

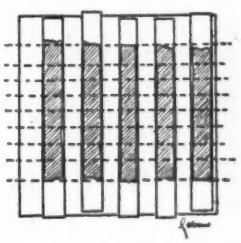

FIG. 2.—The strips, placed on another piece of paper, are cut horizontally.

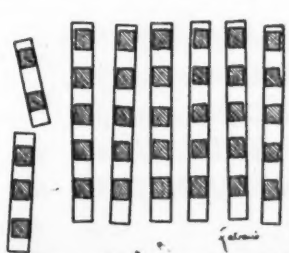

FIG. 3.—Small squares of graft on two thicknesses of paper (only one thickness shown here). The grafts, which retract somewhat, are ready to be placed in position, with the paper.

and the graft and the two thicknesses of paper are cut, but this time at right angles to the first series of strips (Fig. 2). The result is to obtain strips of paper with square grafts, well spread and evenly spaced (Fig. 3). The strips may, of course, be cut narrow or wide, and triangular or any shape desired. Ten cuts in one direction and ten in the other will give 100 grafts, which can be arranged in chessboard fashion, or in a square, a cross, or any desired shape. The chessboard pattern is easy to arrange and is very even in distribution.

Up to now we have employed this type of graft only when the usual graft has failed, when the condition of the raw area made it unsafe to use an ordinary graft, or when there was much limitation of the donor area. Some of the cases were clinically poor.

It is too early to draw final conclusions, but up to the present the results have been striking. The grafts took completely on the following types of raw areas: old burns with bad granulating tissue, after several entire failures of grafts and after recent infection; old lacerations at the heel, also after several failures; a burn five weeks old—one area all round the protruding stump of a humerus; a five-weeks-old laceration of the leg, with much sloughed tissue; 14-days granulation tissue, on recently cut parietal bone; the *bare bleeding bone* of the skull after removal of the necrosed outer wall.

FIG. 4.—Seven days after the grafting operation.

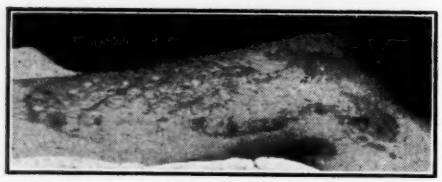

FIG. 5.—Seventeen days after the grafting operation.

The photographs here reproduced (Figs. 4 and 5) are taken from the following case. The main points of the case history are as follows:

Illustrative Case

An engine-driver aged 42 was pinned under a locomotive on Sept. 5, 1942, for 2½ hours while steam blew down upon him. His injuries were third-degree burns of the right arm and the inner aspect of both thighs. His condition on admission to hospital on Oct. 14 was as follows:

Right Arm.—Guillotine amputation had been performed elsewhere. The skin of the stump was retracted for 1½ in. and the humerus covered by fairly clean granulations. Outside the stump there was a granulating area of about 3 in. by 3 in.

Right Leg.—Granulating surface at the buttock, clean, about 7 in. by 4 in. Granulating surface with some adherent slough at the inner surface of the thigh, about 15 in. by 2 in.

Left Leg.—Granulating surface, clean, at the inner side of the thigh, about 12 in. by 4 in.

Oct. 21: Operation (Mr. P. Gabarro).—Local anaesthesia to the donor area; chessboard grafts on burnt areas. A Thiersch graft about 5 in. by 2 in. was cut from the inner side of the left arm with the Blair knife. Following the technique described this graft was divided into 160 square grafts and distributed to the above-mentioned areas. Dressing was carried out with tulle-gras, flavine-paraffin wool, and bandaging with some pressure. Time taken, 2½ hours. Each dressing took a long while.

Oct. 28.—First dressing. All grafts had taken on arm and both thighs; on the buttock only 30% (defect of fixation ?).

Oct. 30.—On arm and both thighs apparently no grafts were lost. They looked healthy, were spreading well, and in several parts had already united, bridging the gaps. On the left thigh there was almost a complete bridge across the whole area.

Nov. 5.—Right arm: All grafts were united, leaving only very small raw spots. Right thigh: Almost completely epithelized. Left thigh: The majority of the grafts were united by epithelium, and only very small raw areas were left.

Nov. 8.—Arm and both thighs completely healed.

Nov. 16.—The patient now up and walking inside the ward.

Nov. 18: Operation.—Local anaesthesia to the donor area. Gabarro's grafts to the buttock. A Thiersch graft was cut with the Blair knife *from the area which was used about a month previously*. The graft was divided into 24 squares and placed on the remaining raw area of the buttock, with some pressure by means of elastoplast. Time taken, half an hour.

Remarks

The time from the operation to the complete epithelization in three areas was 17 days. The first dressing was done on Oct. 28, the seventh day after the operation. The grafts had all taken, but there were still no signs of epithelium growing from the edges. Ten days later, on Nov. 7, the whole area was covered with epithelium.

The surface area of the graft was less than one-tenth of the grafted area, which means—astonishing though it may seem—that during 10 days the epithelium had grown at a daily average of 100% of the original graft. This is not so surprising when one considers that in the three areas in which complete success was obtained there were 120 grafts, each having 26 mm. of edges (6½ mm. × 4), making a total of 312 cm.—much more than 3 yards of growing epithelium edge. That was the position on the first day: once the grafts started to spread the growing area increased. In fact, we obtained in this case a culture of epithelium on the living body.

Conclusion

I think it has been shown that the six conditions which I consider essential for a good graft, in the type of cases mentioned, have been obtained, because in the above case: (1) there was plenty of room between the grafts for possible discharge; (2) the donor area was not spoiled, and was already in use again in less than a month; (3) the grafts took easily; (4) the procedure was fairly quick, considering that it was carried out under local anaesthesia and that the grafts amounted to 160; (5) there was no contact at all between donor and recipient areas; (6) the grafts were placed as close as the possibilities of their growth demanded: in 17 days the raw area was closed.

I wish to express my thanks to Prof. F. Wilkinson for his interest and encouragement; to Mr. A. W. Moule, the dental surgeon of the plastic unit, who was kind enough to take the photographs; and to the staff of the plastic unit, who by their enthusiasm, care in handling the patients, and patience made possible the results obtained.

TREATMENT OF THE FRACTURED GREAT TOE

BY

G. N. TAYLOR, M.B., M.Ch.

Fracture of the great toe is in itself of minor significance in traumatic work; it is, however, the commonest fracture in industry. In the past, many hours, days, and even weeks of disability have followed its occurrence. Its treatment—e.g., splints manufactured from spatulae, or collodion dressings—has been almost beneath the dignity of overworked casualty officers, and many cases are not even referred to the fracture clinic.

Under present conditions the great effort which is being made by both combatants and civilians often means less care in the handling of war weapons and other commodities, so that these articles frequently drop on the not too carefully placed feet, and thus the incidence of this fracture must be greatly increased. It was Mr. Griffiths (1935) of the Albert Dock Fracture Clinic who pointed out the lengthy off-work period that some of these cases demanded—the average duration of incapacity being 18 weeks—and under him a system of treatment has been evolved which reduces this period often to less than 10 days.

Method

The subungual haematoma which forms, more especially with fracture of the distal phalanx, is not large. However, owing to the firmness with which the nail is attached to its bed and the bed in turn attached to the periosteum of the phalanx, the tension developed is great and the pain sometimes excruciating. The nail has on occasion been avulsed in the treat-

ment of such a case, a procedure which is little less than a crime. Such a sacrifice deprives the broken phalanx of an ideal splint and exposes a singularly tender area which will not permit of a return to work for some weeks. In order to save the nail and at the same time to relieve the tension and therefore the pain, it is a simple matter to trephine the nail: a little patience and a sharp operating knife are all that is required. The trephine opening need not be more than 2 mm. in diameter, and should be placed over the most prominent point of the haematoma. With this simple manœuvre the relief is dramatic as soon as the free blood is released. Vaselined ribbon gauze 3/4 in. wide is applied to the toe, and when the fracture is confined to the distal phalanx a plaster-of-Paris thimble enclosing the whole toe provides adequate immobilization. When, however, the proximal phalanx is fractured a plaster toe-splint is fashioned to enclose the sides and plantar surface of the toe; this extends along the medial surface of the foot to about the tubercle of the navicular bone and across the sole of the foot for about half its breadth. The splint is either bandaged or strapped in place. The vaselined gauze lubricates the inside of the plaster and allows an easy and painless removal of the splint. Failure to do this can result in the most tedious and painful task, especially when the blood has leaked under the plaster.

It was always our custom to admit these cases to hospital for 48 hours, with immediate elevation of the limb, and we found that the comfort in each and every case was great. It may be argued that admission to hospital is quite unnecessary. This may be so providing the patient goes home by ambulance and assumes a recumbent attitude with elevation of the limb. Owing to the comfort induced by plaster immobilization and the trephining, these instructions are not always carried out, and treatment in hospital, when space permits, we found more desirable.

The patient is allowed up on the third day, when, by borrowing a boot about two sizes larger than his own, he can accommodate a thimble; the stout leather sole, being unyielding, prevents movement of the toe. The larger plaster sole-splint cannot be accommodated inside an ordinary boot, but it can almost invariably be abandoned for the plaster thimble. The patient is encouraged to use heavy working boots, and by the eighth to the tenth day he may return to work. This date is, of course, variable; sometimes a fracture causes so little incapacity that a return to work on the following day is possible. On the other hand, severely comminuted fractures or grossly lacerated soft tissues will demand a longer incapacity period. This short period of immobilization will not cause any stiffness of the metatarso-phalangeal joint, mobility of which is so essential for comfortable walking.

As with compound injuries of fingers and thumb, conservation of tissue is the great aim. Such aim is no less applicable in the case of the great toe. Excision and débridement are carried out in the same manner as in other compound fractures. When the great toe is severely mutilated and amputation is deemed advisable, preservation of the metatarso-phalangeal joint must always be the goal. The importance of this joint is not always realized, and the simple operation of disarticulation is too often undertaken. Following this procedure, the late result of pain while walking forward on the tread, which entails pressure on the antero-inferior aspect of the metatarsal head, causes many weeks of disability. Where possible a small portion of the proximal phalanx should be left to maintain the integrity of this very important joint. It is almost unnecessary to state that the head of the first metatarsal must be preserved at all costs, because it, together with the remaining metatarsals and the os calcis, forms the tripod on which the weight of the body is borne.

Conclusion

To summarize, the points I wish to make are: (1) trephine and save the nail; (2) plaster-splint, with elevation, for 48 hours; (3) encourage use of a heavy boot during convalescence; (4) condemn disarticulation at the metatarso-phalangeal joint.

Again my thanks are due to Mr. H Ernest Griffiths for his guidance and encouragement in this and many other matters relating to traumatic surgery.

REFERENCE

Griffiths, H. Ernest (1935). *Injury and Incapacity*, London.

Medical Memoranda

Bilateral Fracture of the Patella

The following case of fracture of both patellae, treatment of which had an interesting sequel, may be thought worthy of record.

CASE HISTORY

Private A. was admitted to a general military hospital on Aug. 21, 1942, complaining of pain in both knees. At 2 a.m. he had been returning from a dance, travelling as a " passenger " on the crossbar of a bicycle. While descending a steep hill his " pilot " attempted to take a sharp right-hand bend at speed, but at the crucial moment the brakes failed and the bicycle crashed into a stone wall. Private A., by reason of his posture, took the brunt of the impact on his flexed knees.

I examined him at 9.30 a.m. I found a well-developed intelligent youth of some 18 years. He had several abrasions on the knees, both of which were much swollen. The legs were held in extension and any attempt at flexion of either caused severe pain. He volunteered the information that his legs " wouldn't hold him up " after the accident. Shock was entirely absent.

Operation.—Radiographs revealed fractures of both patellae; the right was grossly comminuted, and displacement was severe; the left was a " cruciate " fracture, and displacement was not marked. I decided to remove the right patella. Owing to the multiplicity of dirty abrasions great caution was exercised in preparing the skin, and operation was finally fixed for Aug. 27. Under general anaesthesia the fracture was approached through a midline vertical incision. On separating the fragments an enormous haematoma under pressure was evacuated. Loose fragments were removed and the upper and lower fragments dissected free from the quadriceps tendon. The free ends of the latter were then bunched together with mattress sutures of No. 3 catgut in the manner described by Watson-Jones (1941). The wound was closed and a compression bandage applied. Attention was then directed to the left knee, and it was found that the displacement was easily corrected by direct pressure against the femoral condyles. A mid-thigh plaster cast was applied.

Post-operative Measures.—During the immediate post-operative phase severe pain in the right knee required the frequent use of sedatives, and on the third day transient swelling of the right ankle necessitated slight relaxation of the compression bandage and elevation of the limb, with immediate benefit. The left limb was trouble-free. Stitches were removed on Sept. 5, the wound being soundly healed. Active exercises were begun cautiously on Sept. 7, and the following day the patient was allowed out of bed in a wheel-chair. From this time onwards he showed excellent co-operation, and persisted tenaciously at his exercises. The plaster was removed from his left leg on Sept. 21 and he was allowed to bear weight. Radiographs taken on Sept. 28 showed firm union of the left patella in good position; the right knee was clear of fragments and there was no new bone formation. He was discharged on 14 days' convalescent leave.

End-result.—The patient was readmitted on Oct. 15 for a course of physiotherapy, and was finally discharged to duty on Dec. 2. I made a " follow-up " examination on March 19, 1943. He was then in excellent health and spirits. Examination of the right knee showed the wound firmly healed, with painless flexion up to 140 degrees. The left patella was firmly united; the articular surface was smooth, and flexion was possible up to 150 degrees. The patient then volunteered the interesting information that, although naturally left-footed, he now found the right knee not only stronger than the left but also stronger than it had ever been previously. He added that he had no trouble whatsoever with the right knee, but that he got occasional twinges of " rheumatism " in the left knee, especially in frosty weather or after prolonged marching. He referred this pain to the ligamentum patellae. Both quadriceps were equally redeveloped, but tests revealed that the right was undeniably now the more powerful. The efficacy of the " bunching " method of suturing the quadriceps tendon was strikingly demonstrated by the fact that the contours of both knees were indistinguishable.

I have to thank the Director of Medical Services and the Command Medical Officer, Southern Command, for permission to publish this case.

JOHN J. MURPHY, M.B., B.Ch.,
Captain, A.M.S.

Cork, Eire.

REFERENCE

Watson-Jones, R. (1941). *Fractures and Other Bone and Joint Injuries*, p. 547, Edinburgh.

Unusual Case of Obstruction by Worms

The following case may be considered interesting enough to merit publication.

CASE HISTORY

On March 4, about 1.30 a.m., I was called to a child aged 5 years who had become ill on the previous morning. She then complained of abdominal pain and vomiting. This got worse towards night, and she was sent to Nenagh General Hospital. Appendicitis was a suggested diagnosis. On examination the child was restless; her temperature was normal, pulse 100, and respirations 26. She had general abdominal discomfort, most marked about the umbilicus. There was no definite rigidity. Restlessness was the most pronounced feature.

She was operated on that morning about 10.30 o'clock, the anaesthetic used being open ether administered by Dr. Mary Ryan of Nenagh. When the patient was asleep a very distinct and rather large swelling could be felt in the lower abdomen and slightly to the right of the umbilicus. This felt like a possible intussusception. The abdomen was opened by a lateral incision over the appendix and the mass delivered through this opening. It consisted of small intestine, which was under very great tension for an extent of about nine or ten inches. It was bluish, and evidently the obstruction was due to a mass inside and not to an intussusception. The intestine had a rope-like feeling, and at one point what looked like the outline of a long worm was firmly compressed against its wall. I opened the intestine at this point and found that it was packed so tightly with worms that the loops of three or four at once bulged through the incision, which was only three-quarters of an inch long. I drew these out with a tissue forceps, and in a couple of minutes had removed 66 full-sized roundworms. This relieved the obstruction, and although it was now evident that there were other worms in the intestine I closed the incision by two layers of catgut sutures. The child was restless and ill that night, her temperature being 100° and her pulse 148. After that she made a complete and uninterrupted recovery, except for a slight cold which remained a few days. Her temperature was normal on the fourth day and did not again pass 99°. After a week she was given five 2-gr. santonin powders at two-day intervals, when she passed 13 further worms. The child returned to her home on April 2 in very good health.

COMMENT

Notwithstanding the large number of worms which are occasionally found in children, I feel that 79 must be extremely high. The comparatively good health which the child enjoyed before her acute attack is also, I think, rather remarkable in view of the severe symptoms frequently caused by the presence of two or three worms in a child of that age. I have to thank Dr. Ryan for an excellent anaesthetic.

Nenagh, Co. Tipperary. A. D. COURTNEY, M.B., B.Ch.

Macrocytic Anaemia following Partial Gastrectomy

Macrocytic hyperchromic anaemia is a rare sequel of operations involving removal of stomach tissue, and has been described as following total as well as partial gastrectomy (see Gordon-Taylor *et al.*, 1929; Rowlands and Simpson, 1932; Hartfall, 1934). Such operations are probably more often followed by a hypochromic "secondary" type of anaemia (Vaughan, 1932; Hartfall, 1934; Joll and Adler, 1942). As only about a score of well-authenticated cases of anaemia of the macrocytic hyperchromic type as a result of partial gastrectomy have been recorded we consider the subject to be of sufficient interest to publish details of a further example of the condition, which responded to injections of liver extract.

CASE RECORD

The patient, a woman aged 61, gave a history of having had an operation for perforated gastric ulcer 30 years before. She had had a partial gastrectomy performed 15 years ago, when three-quarters of the stomach was removed. A few months before admission to our hospital she complained of pallor and some oedema of her legs.

On examination she was pale, there were signs of chronic bronchitis, and the epigastrium was slightly tender. A blood count (Nov. 4, 1942) showed the presence of a macrocytic hyperchromic anaemia: Hb, 33%; R.B.C., 1,410,000; C.I., 1.2; mean cell diameter, 8.2 μ; mean corpuscular volume, 116 cubic μ; reticulocytes, under 1%; no increase in B.S.R.; W.B.C., 3,200—polymorphs 64%, lymphocytes 36%. As has been described in similar cases, the indirect van den Bergh was negative and the serum was not icteric. A fractional test meal showed achlorhydria, with presence of bile in all specimens. The stools did not contain occult blood. A sternal puncture carried out before the administration of liver showed a typical megaloblastic marrow: myelocytes, 15.75%; metamyelocytes, 2%; basophils, 0.25%; eosinophils, 2.5%; polymorphs, 5.25%; lymphocytes, 2.25%; plasma cells, 1.5%; proerythroblasts, 0.75%; early megaloblasts 13%, intermediate megaloblasts 40.5%, late megaloblasts 16.25% (total megaloblasts, 69.75%).

On the basis of the examination of the peripheral blood and the sternal marrow a diagnosis was made of macrocytic anaemia of pernicious type, following partial gastrectomy, and appropriate treatment with liver extract and iron was started. With this therapy the condition gradually improved, and on Feb. 10, 1943, the haemoglobin percentage was found to be 90 and the red cell count 4,900,000 per c.mm.

We wish to thank Dr. A. D. Rope for allowing us to publish details of this case.

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REFERENCES

Gordon-Taylor, G., Vaughan-Hudson, R., Dodds, E. C., Warner, J. L., and Whitby, L. E. H. (1929). *Brit. J. Surg.*, **16**, 641.
Hartfall, S. J. (1934). *Guy's Hosp. Rep.*, **84**, 448.
Joll, C. A., and Adler, D. I. (1942). *British Medical Journal*, **2**, 632.
Rowlands, R. A., and Simpson, S. L. (1932). *Lancet*, **2**, 1202.
Vaughan, J. M. (1932). Ibid., **2**, 1264.

Reviews

SURVIVORS FROM SHIPWRECK

Shipwreck-Survivors: A Medical Story. By Macdonald Critchley, M.D., F.R.C.P. (Pp. 119. 7s. 6d. London: J. and A. Churchill. 1943.

Our great seafaring tradition has been painfully built upon the sacrifices and sufferings of generations of our sailors, and at no time have the stresses of exposure and tribulation been borne with such consistency and to such an extent as to-day. Yet there has always been an unfortunate lack of medical interest in these problems, which we may hope Surgeon Capt. Macdonald Critchley will succeed in rectifying by his admirable little book. He attributes this neglect largely to the increasing rarity of accidents in peacetime, yet shows that although such disasters as the loss of the *Titanic* aroused enormous general interest they never held medical attention. Such neglect has become intolerable at the present time, and it behoves our profession to place its accumulated experience and physiological knowledge humbly at the disposal of the Royal and Merchant Navies in order that some of the elemental hardships may be prevented and others of them assuaged. In this spirit Critchley offers his own contribution. It is indeed a grim story he has to tell; surely never have the depths of human infamy and the heights of human courage and endurance been shown in sharper contrast. Nor is it the courage of ignorance, for many men have endured these trials not once but many times, yet have not faltered.

The author presents his material under the headings of the effects of cold, thirst, hunger, and tropical conditions. He then describes the state of the survivors at the time of rescue, and discusses the psychological aspects of their experiences. Finally he considers methods of mitigation of risks and treatment in general. He succeeds in painting a graphic picture in the small compass of 112 pages, aided by photographs of poignant interest. The longest recorded survival on a float is 3½ days, on a raft 48 days, and in a lifeboat 70 days, though lifeboat voyages of more than three weeks are exceptional. Indeed, if a lifeboat is not picked up within 24 hours there is still a 50% chance of being rescued within five days. Other conditions being equal, large persons stand immersion better than small, since they have a lower ratio of surface area to mass. The tendency of the exposed men to fall asleep in a flexed position should not be regarded or treated as a dangerous complication, for it is comparable to hibernation. When the body warms up after rescue severe pain is felt in the feet, which may not develop for several days, when it becomes persistent, reaching its acme during the second to the fourth weeks. It is worst at night and is increased by any pressure. Naturally, ulcers and gangrene may ensue. A table is given of the symptoms compared with those of trench foot and frost-bite, showing much more prolonged after-effects from "water-bite." Thirst is, after cold, the most distressing and dangerous hardship, and the disastrous results of trying to alleviate it by drinking sea-water are well known. Food is of very secondary importance, for adequate water supply is the dietetic factor which will determine survival, and the limited stowage space within life-saving contrivances could be more fruitfully devoted to water than to food would the layman but realize it. On physiological grounds there is a case for advocating fats, and especially carbohydrates, to the virtual exclusion of proteins. The severe cold of the North Atlantic may overwhelm a man in a comparatively short time, whereas in a hot climate a high morale will triumph over the greatest physical hardships. Anything up to two weeks in a boat is then borne well, despite minimal food and water. In the Tropics a 50% survival rate has been recorded after almost entire submersion for 32 days. Blistering, salt-water burns, and boils, and even gangrene, may occur, and the risk from carnivorous fishes is by no means negligible, though the dreaded shark is really less deadly than the "tiger fish."

On rescuing, the survivors will probably present a macabre picture wherein shock, cold- or heat-prostration, emaciation, dehydration, local tissue destruction, or focal infective lesions are conspicuous. Almost certainly a mental reaction will be present—whether of simple relief or excited elation—it may well be with a background of confusion, mild delirium, apathy,

or simple depression. Surgeon Capt. Critchley has done good service in emphasizing what extremity the human body is capable of withstanding and impressing upon us anew our deep debt to our seamen.

GENERAL SURGERY, 1942

The 1942 Year Book of General Surgery. Edited by Evarts A. Graham, M.D. (Pp. 848; 306 figures. 19s.) Chicago: The Year Book Publishers; London: H. K. Lewis and Co.

The yellow jacket of this yearbook reads like an examination paper of some 20 questions, but the answers to these can be found within. We are invited to test ourselves on "a 10 minutes quiz" consisting of such questions as, What is the one safe inhalation anaesthetic ("anaesthesia" is the word actually used) for patients with acute respiratory disease? and, Is there any hereditary factor in the development of ingrowing toe-nail? All this probably has some selling value, but to the discerning, and to those already familiar with this valuable perennial, is quite unnecessary. To our readers the value of the yearbook of surgery is too well known to need any such boosting.

Like its predecessors, the present volume sums up well the year's contributions to surgery, and contains condensations of many of the most important papers. In an introduction the well-known and distinguished editor reminds us that much of the surgical literature of the last year has been devoted to war wounds, and yet most of the articles reveal nothing essentially new. Since the last war, chemotherapy and the tannic acid treatment of burns are perhaps the two outstanding contributions to surgery, but there is still no general agreement as to what is the best local treatment for severe burns.

In a brief review such as this it is difficult to know what to choose as representative samples of its contents; but perhaps some idea of these will be gained by referring to one or two at random, such as the evaluation of the Miller-Abbott tube, the surgery of tumours of the pancreas, and the present position of the surgical treatment of hypertension. The busy surgeon will need this book to keep him in touch with recent developments.

UROLOGICAL PRACTICE

The 1942 Year Book of Urology. By Oswald S. Lowsley, M.D., F.A.C.S. (Pp. 456. 19s.) Chicago: The Year Book Publishers; London: H. K. Lewis and Co.

This book is a valuable companion and should be near to the hand of those who are anxious to keep pace with urological progress. No advance in urology worthy of mention is omitted. The *Year Book* is, in fact, a reference library, containing in condensed form not only the recent views of recognized authorities but also where and when these views have been published. "General Considerations" occupy the first 65 pages. Under this heading a variety of subjects are discussed, including injuries, infections, calculi, tumours, and anaesthesia. There is perhaps a tendency towards repetition of these discussions in the later pages devoted to specific organs. However, no change in the arrangement of the contents would be an improvement. Many useful hints are given under the various headings. For example, it is suggested that, whereas rupture of the bladder or urethra requires immediate operation, injuries to the kidney are as a rule better left alone. In order to avoid delay in the diagnosis of urinary lesions it is recommended that every patient, whatever the nature of the trauma, should be made to void or be catheterized as one of the first steps in the general examination. This is sound fundamental advice. Occasionally, however, catheterization is misleading. The reviewer catheterized a patient with multiple widespread injuries. The result appeared satisfactory. Later it was found at operation that the catheter on two occasions had passed through a rent in the bladder wall, and that fluid, including urine, was drawn from the peritoneal cavity.

The book contains much valuable information on the subject of sulphonamide therapy, and draws timely attention to the many dangers and complications which may arise from this therapy in treatment of infections of the urinary tract. Injuries and diseases of the kidney and ureter are discussed in full measure. There are useful reminders of the anomalies and malpositions which are such ready traps for the unwary diagnostician. In the final pages a good account is given of transurethral resections and of the surgery of the prostate and the genitalia.

War brings patients with multiple injuries. The patient with a fractured femur and lacerated lung may also have a ruptured bladder or urethra. He will still survive if handled with skill and judgment. The general surgeon at the front line—and nowadays the front line is everywhere—will strengthen his resources by having the *Year Book of Urology*, in company with a few similar volumes, close at hand. He will be familiar with most of the contents, but sometimes he will need mental refreshment, and after a long war service may wish to make quite sure that, from year to year, he has kept in pace with the times.

Notes on Books

Dr. F. M. R. WALSHE'S book *Diseases of the Nervous System Described for Practitioners and Students* is by now well known to many readers. A feature, noted in these columns when the book first appeared in 1940, is the avoidance of complex and technical terms so far as possible. As an introduction to clinical neurology it is written in simple and direct language which the least experienced in this branch of practice should be able to follow. In the accounts of the commoner nervous diseases, the degree of detail given varies according to the relative importance of each malady in the general practice of medicine. A third edition has now appeared (E. and S. Livingstone; 15s.). Dr. Walshe has thoroughly revised the text, and has introduced brief new sections on ocular movements and on the pituitary–hypothalamic complex, on infantile hemiplegia, and on sinus thrombosis; recent work on the aetiology of acute poliomyelitis is summarized. There are some new diagrams and reproductions of radiographs.

The "Practitioner" handbook entitled *Minor Medicine*, under the editorship of Sir Humphry Rolleston and Dr. Alan Moncrieff, is published by Eyre and Spottiswoode at 16s. Most of the twenty-four chapters have already appeared in the pages of the *Practitioner*, but in each case the author has revised his material for its reappearance in book form. Throughout these miscellaneous practical contributions to everyday medicine the point is made, directly or indirectly, that maladies commonly spoken of as "minor" may nevertheless play a major part in the discomfort of the individual; and the editorial preface enforces the maxim that the man rather than his malady should be treated, and that it is the peculiar province of general practitioners to observe and note the early human reactions to adverse factors and to act on the principle *obsta principiis*.

With reference to Dr. PERCY TURNER'S *Tropical Medical Manual* noticed in this column on May 29 we are now informed by the Salvation Army International Headquarters that the price mentioned is only for missionaries, and is plus postage. The manual cannot be supplied to the general public, nor to bookshops for re-sale.

Preparations and Appliances

AN AMPOULE SYRINGE

The "tubunic" ampoule syringe illustrated in this column has been evolved as a result of numerous conferences between Roche Products Ltd. (Welwyn Garden City, Herts) and advisers of the medical services. Since the first British "tubunic" syringe was introduced improvements have been effected in several directions, and the latest model is claimed to be an advance on all its predecessors. The figure gives a diagrammatic representation of the new safety outfit. This ampoule syringe is protected by a transparent plastic case which carries a collapsible tube with hypodermic needle in position, the entire apparatus being kept unsoiled by means of a basal cap. In emergency the cap can be removed instantly, the stylet used to pierce the container, and the released solution injected by compressing the tin container.

PROTEOLYSED LIVER (EVANS)

Evans Sons Lescher and Webb Ltd. announce that, in response to numerous inquiries regarding proteolysed liver (see *British Medical Journal*, May 29, 1943, p. 655), the preparation is not yet available commercially. Limited supplies are available, however, for *controlled* clinical trials, and requests for samples should be addressed to the medical director, the Evans Biological Institute, Runcorn, Cheshire.

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T.A.B. VACCINE VINDICATED

It is notoriously difficult to obtain conclusive evidence of the value of vaccination against enteric fever. In civilian populations the incidence of the disease and the proportion of vaccinated persons are both usually so small that evidence can be obtained only during an epidemic, and results of this nature are complicated by the possibility that infection may occur before or during immunization. Armies are our most fruitful source of information, but conclusions cannot be based on comparisons between different wars, in which the frequency of enteric fever was influenced by sanitary conditions as well as by the state of immunity of the soldier. A valid comparison can be made only between vaccinated and non-vaccinated men in the same army and under the same conditions. The presence of a small proportion of men in the British Army in France during the war of 1914-18 who had refused or otherwise escaped immunization provided this necessary control; the proportion was small, but the total number in so large an army fully adequate, especially in the early part of the war. The most striking figures refer to the incidence of typhoid fever in the year 1915, when the incidence was more than ten times greater in non-vaccinated men: there was comparatively little difference in the incidence of paratyphoid, and the vaccine used until then had contained typhoid bacilli only.

Since the last war much has been done to improve the immunizing power of T.A.B. vaccine, and the Royal Army Medical College has led the way in requiring that the cultures used shall be fully virulent as well as smooth. That such a vaccine has greater immunizing power can be proved by protection tests in mice, and strong presumptive evidence of its practical value was furnished by the very low and diminishing frequency of enteric fever in the Army in India. It is this vaccine which has hitherto been used in the Army during the present war—that is, a heat-killed and phenol-preserved vaccine made from virulent cultures. Whether the alcoholized vaccine advocated by Felix and shown by him to stimulate the formation of Vi as well as O agglutinin has a greater protective effect has yet to be proved in the field. Striking testimony to the value of the present R.A.M.C. vaccine comes in an account of enteric fever in the North African theatre of war by Colonel J. S. K. Boyd at page 719 of our present issue. This concerns prisoners' camps on both sides. In an enemy camp near Benghazi which at one time contained as many as 24,000—mainly British—prisoners, where the sanitary conditions were bad, and dysentery attacked a large proportion of the men, no cases of enteric fever were recognized, although the disease existed among enemy troops in the neighbourhood. The freedom of British prisoners from enteric fever occasioned surprise among Italian medical officers in Benghazi. Contrasted with this is the course of events in a British camp containing mainly Italian prisoners, also in large numbers. Here, in spite of sanitary precautions, cases of enteric fever occurred in considerable numbers, and continued to occur in spite of immunization with captured Italian T.A.B. vaccine. Only when the prisoners were later given R.A.M.C. vaccine did the incidence of the disease fall to a low level. Particularly interesting is the analysis of cases among prisoners taken at El Alamein: more than half of these attacks developed within ten days of capture, showing that the disease was active among the enemy at the time of the battle. Of the remainder a majority occurred so soon after vaccination that its full protective effect could not have been attained.

These observations are not all of a kind to withstand statistical analysis: some indeed are not strictly numerical at all, and the conditions under which they were obtained did not lend themselves to the collection of exact and unassailable data. Of their general significance there can nevertheless be no doubt, and there is neat and gratifying confirmation in the experimental comparison made between Italian and British vaccines. By mouse protection tests it was shown that, although the R.A.M.C. vaccine produced resistance to 10 m.l.d. of culture, neither of two brands of Italian vaccine saved the life of a single animal so infected. These results, both clinical and experimental, deserve the serious notice of all R.A.M.C. officers responsible for the inoculation state of their units. All inoculations in the Army are on a voluntary basis, and how efficiently they are carried out depends much on the zeal of the individual officer concerned, which in turn will depend in part on his own conviction of their usefulness and necessity. Colonel Boyd's paper affords an ample basis for that conviction, and T.A.B. vaccination should be regarded throughout the Army not as a tiresome formality but as a safeguard which may materially affect the success of an entire campaign.

PLANNING FOR MENTAL HEALTH

Amalgamation of voluntary associations is always a difficult matter, not from lack of good will but because of wide variations in their origins and constitutions. In the broad field of mental health the Central Association for Mental Welfare was formed in 1913 to undertake community care of defectives and to supplement the work of statutory authorities. This Association has enlarged its borders and is now the focus of those whose lack of social co-operation prevents them from realizing the full responsibilities of citizenship. The war of 1914-18 brought to the surface many forms of mental ill-health that had been buried during the period of shock and strain. With the object of preventing these disorders by education and propaganda a new voluntary association was created shortly after the war—the National Council for Mental Hygiene. This body has carried out important pioneer work in public education and in directing attention to the social and industrial background of mental illness. A third voluntary body, the Child Guidance Council, was formed later to develop the far-reaching discovery that many mental troubles and social maladjustments have their origin in early childhood. This Council received generous support from the Commonwealth Fund of America and was able from the start to develop clinics and to offer training facilities for both medical and social workers.

With all these extending and diversified branches of the work it was inevitable that overlapping, with its consequent waste of effort and money, should occur; to remedy this a bold scheme of amalgamation was undertaken by the leaders of the voluntary movement. Unfortunately, the

present war cut short the scheme before it could be perfected, but in the meanwhile an Emergency Committee, with representatives from the Central Association of Mental Welfare, the National Council for Mental Hygiene, and the Child Guidance Council, was formed in 1939. This committee foresaw many of the problems created by the war and was ready to meet them, and the work it has done up to now has been invaluable. After the evacuation of children it set up local organizations to assist authorities in reception areas in dealing with "difficult" children. They also found special billets for nervously unstable cases and provided specially trained supervision for hostels in which difficult children were housed. Many authorities showed their appreciation of the work by appointing permanent officers to continue what had been begun as a voluntary contribution to the war effort. This has again been a successful demonstration of voluntary and statutory bodies working together for the common good. In connexion with the latest Government regional development of medical services the committee has arranged for regional representation in its own field which links up with existing mental health organizations. From all over the country the hospital authorities—Army, R.A.F., and E.M.S.—have increasingly sought help from the committee in after-care work for mental cases in the Services, and advice has been asked in connexion with very many civilians suffering mentally as a result of the war.

Emboldened by its successful career the Emergency Committee again considered the possibility, even in wartime, of closer co-operation and greater permanency, and a Provisional National Council for Mental Health has just been formed under the chairmanship of Sir Otto Niemeyer. This Council is to act as a single central body covering the whole mental health work of the three participating associations. It should accomplish much and prove to be a most important achievement in centralized control. News of its work will be recorded in *Mental Health*, the journal of the constituent bodies. The Mental After-Care Association, which was for many years the only organization of its kind, has announced through its chairman that it is in full sympathy with the ideals of the Provisional National Council.

EXPOSURE AND THIRST AT SEA

There are two most essential needs for the shipwrecked sailor exposed in boat or raft, and for the airman who has had to take to his dinghy: the first is a protective suit to prevent death from cold, and the second an adequate supply of water. As was stressed in the excellent M.R.C. "guide" for the shipwrecked,[1] food is a less pressing need, for with body warmth conserved and water enough to drink a man can keep alive without food for many days. Sir Leonard Hill pointed this out when he was asked by the Board of Trade some twenty years ago what food ought to be supplied in lifeboats and rafts fitted on passenger ships, and he and Dr. Argyll Campbell then carried out experiments on the East Coast with a one-piece dress designed for them by Sir Robert Davis. This was made of thin waterproof material and enclosed the whole clothed body; it lessened the body heat loss by one-half when the wearer was exposed to cold wind and the splashing of waves. In 1940 Sir Leonard Hill drew the attention of the Liverpool Association of Steamship Owners, and of the Ministry of Transport, to these experiments published in an M.R.C. report on the katathermometer, body heat and efficiency. For use in lifeboats and rafts it was determined at the Ministry of War Transport that a three-piece suit was more convenient, consisting of trousers, tunic, and hood, made of thin oilskin and of light weight. The whole dress folds up into the hood, and is carried, as a gas mask is, so as to be available on any emergency. The dress is coloured bright yellow and is thus easily seen from the air. In an admirable waterproofed book of advice provided by the Ministry for each lifeboat or raft full instructions are given as to the use of this dress and all other means of saving life. About a quarter of a million protective suits have now been issued to merchant seamen, and reports on their utility have been most striking. The dress protects the wearer from the tropical sun no less than from cold.

The Ministry of War Transport likewise recognized the need to provide as much fresh water as possible, and directions are given for catching and storing rain. The hood of the protective dress comes into use for this purpose. A simple form of still has recently been designed in which compressed briquettes or paraffin can be burned. Working 10 hours a day, such a still produces in 14 days 70 gallons of drinking-water from sea-water—about twice the amount carried in a lifeboat intended to hold 40 people, giving in all more than a pint and a half a day for each person. The still can also be used to provide hot drinks and for drying clothes. Briquettes can be stored in odd corners of the boat. In the U.S.A. another and most ingenious method has been devised for obtaining the necessary water, and that is the catching of fish, chewing the raw flesh, swallowing the juice, and discarding the solid not needed for food.[2] Salt sea-water cannot be drunk without danger to life, and the suggestion put forward that it can be injected into the lower bowel, and water safely absorbed from there, has been proved wrong. Animal life in the sea has, however, the power of forming a body fluid, without excess of sea-water salt, similar to human body fluid. With the help of a press, minced raw flesh of sea-fish yielded about 25% of its weight as juice. The carrying of a press is, however, not required, for the teeth in the mouth can do the work. Two sailors who volunteered for the trial lived for 10 days in full health on fish juice so obtained and the food rations supplied in a lifeboat. Now all the rubber dinghies for the Air Force, and the lifeboats and rafts of ships, are being supplied in the U.S.A. with fishing tackle; for bait pork rind is used which has been treated so that it will keep. Fish tend to gather under any shelter such as seaweed or a boat to escape the gulls, and big fish follow small ones, so there is every chance of good catches. With hooks, lines, leads, and bait are included a grapple and a small harpoon, which, attached to an oar, can be used for spearing birds, turtles, or sharks. There are provided also a dipper for catching small fish for bait, and a knife with a wooden handle which floats. The kit weighs only a few pounds and contains a small waterproof book of instructions. About 83,000 small kits have already been put in dinghies for aeroplanes, in rafts and boats; and of a larger kit about a quarter of a million are being prepared.

The introduction of the fish-juice method of obtaining water is due to Mr. Pinchett, a former Governor of Pennsylvania, and now 78 years old. A traveller used to living on the wild, he ascertained that Polynesian natives are in the habit of getting along without water for a good while by chewing raw fish flesh and swallowing the juice. He was able to secure the attention of the Naval Bureau and get the method tried out and taken up. No doubt our own Ministry of War Transport, Admiralty, and Air Ministry will follow the example of the U.S.A. and provide fishing tackle for lifeboats and rafts, which will occupy the interest of the shipwrecked while awaiting rescue, as well as providing fish juice for preserving their life.

[1] See *British Medical Journal*, 1943, 1, 167, 168.

[2] *Reader's Digest*, May, 1943.

YOUTH REGISTRATION AND HOURS OF WORK

By Order under the Defence Regulations, all young persons aged 16 or 17 were registered in 1942 with the object of enabling local education authorities to make contact with them and to encourage them to find the best way of fitting themselves to do their duty as citizens and of assisting the national effort. A recent report,[1] presented to Parliament by the President of the Board of Education and the Secretary of State for Scotland, affords a brief but interesting summary of the main results of the inquiry. Altogether 1,442,361 boys and girls were registered in England and Wales, and about 800,000 of them were invited to an interview, of whom 610,600 attended. (Corresponding figures were obtained in Scotland.) The local education authorities set up small panels composed of two or three men or women who met on one or two evenings a week for several months for the purpose of the interviews, and as a rule about three-fourths of the young people were advised to join one or other of the youth organizations in the locality. Probably about half of them accepted the advice, the favourite choices of the boys being the A.T.C., Sea Cadets, Army Cadets, Home Guard, and Youth Clubs; and of the girls, Girls' Training Corps, First Aid Units, and Youth Clubs. Of those who did not respond to the advice, a number said that they were too tired owing to long hours of work, coupled as they often were with the fatigue of long times spent in daily travel. Quotations are recorded from the statements made by various interviewing panels of the strain upon young people from the excessive work so many were undertaking. On the farming side, for instance, the hours worked usually equalled, or exceeded, the longest demanded by the industry, owing to the shortage of labour. Extraordinarily long hours were recorded by some boys and girls who were doing two jobs, such as factory work by day and service in fish-and-chip shops or cinemas in the evenings. Physical tiredness was more evident with the girls than the boys, the more alarming symptom being that of mental lassitude. A considerable body of the evidence indicating the strain of long hours was published in the summer of 1942, and probably this had a substantial restraining influence on those in authority, for a report made by the Ministry of Labour showed that in January, 1943, very long hours in factories were comparatively rare. Ten sample areas were investigated, and it appeared that about half of all the youths and girls were working 48 hours or less a week, whilst a quarter were working over 52 hours and 5% over 55 hours. No recent evidence was adduced by the committee about the hours worked in shops, but it is to be remembered that on occasions of seasonal pressure the young people may be asked to work for 60 hours a week. In factories and in employments covered by the Young Persons (Employment) Act, 1938, they are ordinarily limited to a maximum of 54 hours a week, but the Minister of Labour has power in wartime to make Orders which have the effect of modifying the peacetime provisions so far as may seem expedient in the national interest.

The evidence obtained by the interviews has stimulated the Government to make definite proposals for improving wartime conditions, and it has decided "to review immediately . . . all cases of wartime relaxations of hours of employment with the object of providing that (*a*) young persons of 16 and 17 years shall not be employed for more than 48 hours in any week except where the hours allowed were necessitated by the particular circumstances; and, similarly, (*b*) that young persons of 14 and 15 years shall not be employed for more than 44 hours a week." Other proposals relate to canteens, the question of double employment, and other factors designed to improve working conditions. We must be thankful that the Government has at last arrived at its decisions, though we cannot forget the long delay.

[1] *Youth Registration in 1942*. H.M. Stationery Office. Cmd. 6446. 1943. (6d.)

TYPHOID FEVER DUE TO INFECTED CHEESE

The question is sometimes asked whether butter and cheese are not as often responsible as raw milk for human cases of tuberculosis due to the bovine type of bacillus. The survival of tubercle bacilli in these products depends mainly on three factors: how heavily the original milk is infected, whether raw or pasteurized milk or cream is used for manufacture, and how long after preparation the articles are stored before they are eaten. Numerous observations made by the early bacteriologists showed that tubercle bacilli died out gradually in both butter and cheese, owing presumably to the effect of acidity. The length of time during which they could be demonstrated varied from a few days to several months, depending to some extent on the degree of the original infection. As a rule, however, they were all dead within two months. It follows, therefore, that neither butter nor cheese which has been stored at the usual temperatures is likely to cause human infection unless eaten fairly soon after manufacture. On the other hand, farm butter and soft cheeses, which are often consumed within a few days of production, are both potentially dangerous. In this country before the war over 80% of the butter was imported, and almost without exception imported butter was made from pasteurized cream. Of the butter manufactured in this country, the greater part was made in factories from pasteurized cream, and only a very small proportion on farms from raw cream. The consumption of soft cheese was trivial compared with that of the hard cheeses. It could therefore be stated with some assurance that the risk of contracting tuberculosis from butter or cheese was almost negligible compared with that from raw milk or cream. The war, however, has brought about a change. Considerably less butter is consumed, and the manufacture of farm butter for sale has practically ceased. Butter is therefore even less liable than before to be infective. With cheese the position is more complex. Cheddar cheese used to be ripened for 5 to 9 months or so. Two types of Cheshire cheese were sold—one a quick-ripening variety marketed between 14 and 28 days after manufacture, the other a long-keeping variety marketed between 3 and 5 months after manufacture. Now the ripening period has been controlled and, on the whole, shortened. Small quantities of Cheddar cheese may be marketed within 3 months, and practically all Cheshire cheese within 1 to 3 months. Against this consumption of less fully ripened cheese must be set the closure of several of the smaller cheese-making units which were using raw milk, resulting in an increased proportion of cheese coming from the larger units, which usually pasteurize their milk. In addition, cheese is reaching this country from the United States which has been stored there in a refrigerator for some weeks or months, and is put on to the English market within a month or two of its arrival. The rate of death of tubercle bacilli in refrigerated cheese is not known with certainty, but it is almost sure to be less than in cheese ripened at the usual temperatures.

The danger of eating unripened cheese is exemplified by a recent epidemic of typhoid fever in Manitoba.[1] Dr. M. Bowman, who was responsible for its investigation, says that there were three separate outbreaks affecting three different places, between the end of December, 1939, and the end of March, 1940. Altogether about 100 persons

[1] *Canad. publ. Hlth. J.*, 1942, **33**, 541.

contracted the disease. The only common foodstuff was cheese prepared at a given factory. Examination of the personnel on all the farms supplying milk to the factory revealed the existence of a persistent carrier of typhoid bacilli who had lately come to the district and had started to ship milk about a month before the onset of the first case. He continued to do so till he was stopped at the beginning of April. Infection of the cheese may also have occurred from the first assistant cheese-maker, who developed typhoid fever in the middle of January. Inquiry into the mode of preparation of the cheese showed that it was allowed to dry for 7 or 8 days, then waxed and shipped to the wholesaler about the tenth day. The cheese was given no proper period of ripening, and may well have reached the consumer within 2 to 3 weeks of its manufacture—a time too short to ensure the destruction of even the typhoid bacillus. The remedy proposed by Dr. Bowman to combat such a risk in future is to supervise milk for cheese-making as rigidly as that intended for consumption in the liquid state, and to insist either on pasteurization of the milk before it enters the cheese vat or on adequate ripening of the cheese before it is sold.

A BIRTHDAY IN MEDICAL JOURNALISM

With its June issue our contemporary the *Practitioner* completes its seventy-fifth year. Journals, unlike individuals, do not grow old as the result of the mere passage of time, but an existence of three-quarters of a century excuses one privilege of age—that of looking backwards. The history of the *Practitioner* is remarkable for its succession of editors. With the exception of the first editor and founder, F. E. Anstie, who died nearly seventy years ago, just after he had become first dean of the London School of Medicine for Women, all the editors have been men whose names are familiar to the present generation of medicine. Sir Lauder Brunton, the author of a famous textbook on pharmacology and therapeutics, succeeded Anstie in the editorship in 1874. After a few years he was joined by Sir Donald MacAlister, afterwards president of the General Medical Council. A third editor was added a few years later in John Mitchell Bruce, and this distinguished triumvirate was in editorial control for eleven years. Then, with a change of ownership, the direction passed to Sir Malcolm Morris, the well-known dermatologist, and after him to W. C. Bosanquet, a classical scholar and philosopher as well as a physician. He reigned until 1904, after which, for a number of years, the names of the responsible editors did not appear upon the title pages of the volumes. In 1924, for two years, Sir Arbuthnot Lane was controlling editor, and from this time, over a period of eleven years, Mr. R. Scott Stevenson was actively associated with the editorship. In 1928 Sir Humphry Rolleston (who has written an interesting introduction to the birthday issue) became editor, and with him, since 1934, Dr. Alan Moncrieff has been joint editor. The original subtitle of the *Practitioner* was "A Monthly Journal of Therapeutics." It was regarded from the first as a special medium for information about remedies; its monthly articles upon the treatment of disease and its epitome of articles upon this subject in foreign journals were highly valued at the time when it was realized that, in the words of Sir Thomas Watson, then President of the Royal College of Surgeons, "we want to know distinctly what is the action of drugs, and of other outward influences, upon the bodily organs and functions." The first number contained an article by Dr. (afterwards Sir) J. Russell Reynolds on the therapeutic use of bromide of potassium, which at that time, after having been a fashionable remedy, had, in the manner of fashionable remedies, come under a cloud. In the first volume there is an article by Sir Benjamin Ward Richardson on blood-letting as a point of scientific practice. Sir Clifford Allbutt appears in the second volume, writing on the subcutaneous injection of morphia. Several articles in the early volumes are by E. A. Parkes on the effects of alcohol. The index of the 150 volumes is a short history of therapeutics. We congratulate the joint editors not merely on having reached an interesting date but on a consistent record of high achievement. To have published 900 consecutive monthly issues of such high quality and practical usefulness is legitimate ground for satisfaction.

THEOPHYLLINE FOR ASTHMA

The chronic asthmatic has to be his own doctor, at least to the extent of being able to administer his own adrenaline. Even the most formidable attack may be averted by early treatment, and the asthmatic becomes by constant practice the best judge of his own condition. Among methods of administration, inhalation of 1 in 100 adrenaline from a fine spray has proved useful in aborting early attacks in individual cases; and the intramuscular injection of adrenaline in oil leading to a prolonged liberation of the active constituent has sometimes been effective. But when a patient has struggled on with his occupation in the face of increasing dyspnoea, and has delayed effective measures until too late, adrenaline may lose its efficacy and 10 to 50 times the normal dose prove necessary, spread out over a number of hours. The time involved is a serious matter, for the patient should be under constant supervision.

Most asthmatics know by experience that hot coffee is an excellent palliative in the early stages of an attack, and as long ago as 1912 Pal showed that caffeine would reduce the bronchial spasm induced in guinea-pigs by peptone. It was subsequently found that caffeine also stimulates the medullary centres. Recently other purine derivatives have been used in the treatment of bronchial asthma, and theophylline seems the most efficient. In 1931 Hermann and Aynesworth successfully treated a refractory asthmatic with theophylline injected intravenously, and since then many other authors have had similar success. Thus Carr[1] has treated 22 patients with status asthmaticus who were received as acute emergencies and who did not respond satisfactorily to adrenaline. In half of the cases 0.48 g. theophylline in 2 c.cm., given intravenously over 2 minutes, brought immediate relief. In the remainder the effect was evident within half an hour and lasted for a variable time, from one hour upwards. In 5 cases out of the 22 there was no recurrence: that is to say, a single injection had effected an immediate cure. In about one-third of the cases there were undesirable toxic reactions, such as dizziness, nausea, vomiting, "pounding of the head," or pain in the chest; these were transient and unaccompanied by gross cardiovascular changes. No fatalities have been recorded, either here or elsewhere in the literature, with this dosage. These results are most encouraging, though the exact mode of action of the theophylline is still under dispute. It has been suggested that it restores the sensitivity of the tissues to adrenaline in some unexplained way. It seems more probable that by a direct action on the bronchi and upon the medulla it breaks the vicious circle for a sufficient length of time for the patient to recuperate. While it is at present advisable to restrict the use of theophylline to the refractory cases until further experience has accumulated, it may well be that in the future it will prove to have a still more extended use.

[1] *J. Lab. clin. Med.*, 1940, **25**, 1295.

FUTURE OF MEDICAL SERVICES

ADDRESS BY Dr. CHARLES HILL

A discussion meeting under the auspices of the Catholic Organization known as "The Sword of the Spirit" was held at Essex Hall, London, on June 5 to discuss the future of medical services in the light of Assumption B of the Beveridge report. The chair was taken by the Bishop of Lamus (Rt. Rev. Edward Myers).

Dr. CHARLES HILL, Deputy Secretary of the British Medical Association, who was the principal speaker, said that the Government, in the debate in February last, had accepted Assumption B and had elaborated it in two ways—one that the service should be administered by a Government Department, and the other that its local administration should be through major health authorities grouped for the purpose. The Government had then started non-committal consultations with various interested groups—local authorities, hospitals, and the medical profession—and had pledged itself that when it had made up its mind in a tentative way it would publish its provisional conclusions in a White Paper which would be submitted to the interested groups and to the public.

In these non-committal conversations, conducted in parallel with the different groups, no secret was made of the desire, powerful in the bureaucratic mind, to establish a whole-time State salaried service administered centrally by a Government Department and locally by grouped local authorities. One fundamental issue which must be resolved by the public was whether such a general development was in the public interest. Was it in the public interest that what was now a comparatively independent profession should be translated into a branch of local government service?

The Doctor–Patient Relationship

One consideration, said Dr. Hill, seemed to him to be paramount—namely, that the relationship essential between doctor and patient was a single relationship in which the doctor's loyalty was to his patient and not to any third party, certainly not to the State. But free choice of doctor, resulting in unequal demands upon different doctors according to their attractiveness to their patients, could not continue in a whole-time State service. Free choice, with a single contractual relationship, was essential. The medical profession had no reason to be ashamed of the quantity or quality of the service that had been rendered to the community under this arrangement in the past and present. Unless free choice of doctor was carried over into the new administrative set-up the change would be for the worse and not for the better.

But there were other considerations. Medicine should be divorced as far as possible from party political affairs. With the State not only the provider of medical and allied facilities but the master and employer of the hitherto independent profession which rendered the service, there would be greater danger of political interference with medicine. Take the central administration. They did not want a Minister whose claim to political favour would lay in the brilliance of the gloss he could put on his report of the country's "stubborn good health." When he read such statements he sometimes for the moment forgot that the Minister was not himself responsible for such a result, and that it was due to the spirit of the people, to say nothing of the service of doctors and nurses! But that sort of thing gave an inkling of what awaited them when the State became the universal employer.

As for local government, there were many men and women who gave fine and disinterested service in that field, but it must not be pretended that local government was satisfactory in all places. There were all too many examples of local government as a party theatre, with political considerations and local prejudices intervening, and there was no guarantee that the calibre of members of local authorities was of a kind capable of the management of personal health services. Yet in the Ministerial mind to-day there was an assumption that the centre-cum-local health authority set-up, because of democratic election, was suitable for such administration. In his view the tendency to increase the number of people whose interests were associated with the State and to decrease the number who could bring to bear an independent view upon the activities of the State would threaten to disintegrate the best democracy.

Promotion for the Doctor

Dr. Hill confessed his belief that the best service was forthcoming with free choice and a system which rewarded those who rendered medical service in proportion to the services they rendered. This might be unacceptable doctrine to many, but with most the reward motive played an important part in their life and work. The man whose promotion lay with officials and committees tended insensibly to groom himself to catch their favour. He knew that it was said that the patient was incompetent to judge the technical value of the doctor's services, and that he might be influenced rather by sartorial than by scientific achievement. But the person who received care and treatment at the doctor's hands was better able to decide its value than the superior officer who made his judgment in the sterile atmosphere of the town hall. The bulk of the conditions which brought people to a doctor were not susceptible to the exact appraisement of the stethoscope or ophthalmoscope; they were due to poverty or frustration, to difficulties at work or at home, in fact to the social set-up, and only the doctor who looked upon the patient as a living unit in the community and dealt with him in a spirit of complete confidence could render him the necessary service.

What Might be Done

For twenty years or more the medical profession had been pleading for an extension of existing services, for bringing dependants into national health insurance, and for enlarging the scope of its benefits, but the appeal had fallen on deaf ears. There was need for the recasting of administration at the centre. The Ministry of Health was weighed down with non-health functions, and other health functions were distributed among half a dozen or more Government Departments; but there was no proposal on the Government side for comprehensiveness at the centre. What was wanted was a genuine central health department, with the Minister responsible to Parliament for the health services as a whole. Some new machinery was needed which would enable the administrator to combine with the doctor actually on the job. He believed that a corporate body such as the Unemployment Assistance Board or the War Damage Commission had much to recommend it. Into such a body not only administrators but men and women engaged in the actual job of medical work might be brought.

At the periphery there should be a recasting of the form and composition of local government bodies and of the areas over which they exercised authority. Under the Ministry's proposal the large authorities would group themselves to appoint representatives to a joint committee, but urban and rural district councils and borough councils would still be left with their environmental health functions, education committees would still be responsible for the school medical service, and mental hospital services—until the Minister changed his mind—were to have been left outside. The recasting of local government areas should have relation to areas convenient for hospital and medical services, and there should be on those bodies ample representatives of the people and voluntary bodies who actually did the job. This would take time—but it should come first.

He went on to speak of the voluntary hospitals, which, he said, were to receive some Beveridge and Treasury money but were to receive it through the grouped local authorities—that was to say, the proprietors of the municipal hospital system. That would lead to domination by the latter system, and it was not domination but partnership that was wanted. He deprecated leaving with any local authority the decision as to the bankruptcy or solvency of a voluntary hospital.

Removal of Barriers

"All that can be done at any one moment is to remove the economic barriers between the community and the services which exist. Beveridge does not increase the services, the Government in the House of Commons debate did not increase

the services, the Ministry in its confidential discussions with us is not increasing the services. The removal of barriers, which is the immediate thing that can be done, could be immediately brought about by a two-way extension of existing national health insurance. I want to see an exhaustive independent inquiry into the administrative structure *before* a revolution is introduced into the methods of general and specialist practice."

Take the health centre, for example. To some people it appeared as a modern innovation, but in fact group medicine had made the voluntary hospitals what they were. The profession, he thought, wanted to see health centres tried out. It was not certain that in fact it would turn out to be an advantage to convert general medical practice into centre practice. Possibly there might be epidemiological disadvantages in the assembly in one building of a large collection of waiting patients. It was not settled whether the opinion of the profession was in favour of consultant and specialist diagnostic centres or communal surgeries, and it seemed fantastic to throw the organization of the profession upon a health-centre basis until at least one or two experimental centres had been tried out. During this period while the local government organization was being re-examined the support of the medical profession should be enlisted in trying out these centres and the methods of running them in different areas. There should be administrative as well as clinical experiment.

"We are ready," Dr. Hill said in conclusion, "to make available the existing facilities to all those who need them, and to extend those facilities. But we are not ready—and this is not the time to contemplate it—for a form of recasting in which the freedom of the profession would be exchanged for a form of civil or local government service. Quite frankly I do not think it is the time, when the most virile section of our community are away, to do anything more than remove any barriers which exist between the people and the existing services. It is not the time to develop a 'Socialist' cell within a 'Capitalist' organism. All I ask in the public interest is that the profession, which has done such good work on a basis of freedom, should not be converted into an ant-heap of organized mediocrity."

Discussion

The discussion was continued by Dr. E. E. LARKIN, who, as the occupant of a salaried post and also as a private practitioner, was able to speak of the advantages and drawbacks of both forms of employment. He distrusted bureaucratic interference with the work of doctors and gave some instances of the way in which the official mind tended to lose sight of human needs.

Dr. LETITIA FAIRFIELD said that a point which was sometimes overlooked was that from the patient's point of view a great deal of organization and planning was needed in order that the benefits of modern science might be brought to the community. Medical services had become so elaborate that the very wisest organization and distribution would not be possible if people were left to pay for medical services for themselves and their dependants. There was a great part of modern medicine which was much better done by whole-time officers than by part-time or by private individuals, but that was quite a different thing from taking into whole-time service an entire section of medicine which called for a different attitude on the part of doctor and patient. Here it seemed to her a question of further experiment by testing out the extension of the national health insurance system, and leaving practitioners with a certain independence even though part of their income was forthcoming from the State.

Among several other speakers in the discussion were Dr. MICHAEL SMYTH and Dr. H. B. MORGAN, M.P. The latter described the speeches from the platform as "High Toryism."

Dr. HILL, in reply, repeated that in his view there was room for change and for great improvement in the organization of medical practice, but the present was not the time, with the State encroachments on civil liberty which were necessary for war, to plan theoretical organization for the future. Rather was it a time to remove barriers which lent themselves to effectual removal without disturbance of the entire structure, and to encourage co-operation and partnership.

Nova et Vetera

A GUNSHOT WOUND IN 1814

Mr. W. S. EDMOND, F.R.C.S., of Shrewsbury writes:

At the Battle of the Nive, towards the end of the Peninsular War, Lieut.-Col. Tulloh, C.B., Royal Artillery, was severely wounded. The following account of his treatment, furnished to the Officer Commanding Royal Artillery under the Duke of Wellington, has recently been found among the papers now in the possession of the Royal Artillery Institution, and may, it is thought, be of some interest. Col. Tulloh's wound compelled him to leave the Army, for which he subsequently received a pension of £300 per annum.

Copy of the Staff Surgeon's Report

Toulouse 23rd May 1814.

I certify to have attended Lt.-Colonel Tulloh Royal Artillery from the 13th Dec. 1813 to the 25th March 1814 for a very severe gun shot wound received by him on the 13th Dec. 1813 in an action with the enemy near Bayonne.

The Ball entered the outer edge of the belly of the gastronamie muscles of the right leg, passed through the Tibia near to its head, where the texture is still spongy, & splintered it downwards without actually fracturing the bone, and was cut out on the inside of the shin. Some pieces of bone & gold lace came out with the ball, and he lost a good deal of blood.

For the first five days the local inflammation ran exceedingly high, & could only be kept down by the constant pouring of cold vinegar & water upon the parts; meanwhile that the orifices of the wound were covered with wax cloths to prevent their being irritated. The inflammatory diathesis excited in the general system was not strong, and only required the frequent use of cooling purgatives, salines, & other refrigerants.

On the 5th day the pain & irritation from the tension of the parts were great, but the strong action of the vesicles was beginning to subside & the wound began to suppurate—the cold applications were then changed for Fomentations, and poultices with great advantage & relief, which were continued for a long time to relax the parts in order to promote free discharge & loosen the splinters of bone & bring away extraneous substances which still remained in the wound.

From the *great* injury done to the bone in the first instance and the quantity of extraneous bodies as cloth, lace, and detached pieces of bone which were long retained in the wound by their getting entangled on the spiculated surface of the wounded Tibia & was a source of continual irritation; a high degree of inflammation took place, and extended itself along the front of the bone nearly as far as the ankle—various abscesses & sinusses formed—profuse & unhealthy suppuration ensued—the pain was *excruciating*, & the strong symptomatic irritative Fever which attended, reduced him to the *lowest state*.

For this the orifices of the wound were deeply and extensively dilated & various incisions made to prevent the extension of the matter by giving it a free outlet; the fomentations were continued—the bowels were kept regular by gentle warm aperients & glysters—the air of the chamber was kept fresh cool & *equitable*—his diet consisted of the most light & nourishing food—he was allowed porter & a certain quantity of wine so as not to heat him—and he took a mixture of Decoction of Columba, compound ʒss of Bark acidulated with sulphuric acid. and Laudanum in *large* doses at night.

By these means and as careful attendance as could be given him he recovered from this very dangerous state, & when I left him his general health was considerably improved—the extraneous bodies seemed to have all come away from the wound in the course of the ball excepting some small pieces of bone that remained yet firmly attached—but no Callus was thrown out to fill up the vacuity in the bone—and an extensive exfoliation was going on from the anterior part of the tibia which threatened to be a very tedious process, & to accelerate it he had begun to use the waters of the hot sulphureous spring at Cambo in the mode of topical bath, which seemed to be of some service.

He had the use of the knee joint, & could move the leg when in a horizontal position in bed, but had no other use of it, and it seemed doubtful whether he would ever recover the perfect use & former strength of the leg.

(Signed) JOHN MURRAY
Staff Surgeon.

More than a million dollars has been raised by the Canadian Aid to Russia Fund to provide medical and other supplies for Russian civilians.

BIRTHDAY MEDICAL HONOURS

The names of the following members of the medical profession were included in a Birthday Honours List published in *Supplements* to the *London Gazette* on June 2 and 4:

Baronetcy

Sir JOHN FRASER, K.C.V.O., *M.C.*, M.D., Ch.M., F.R.C.S.Ed., Regius Professor of Clinical Surgery, Edinburgh University. Honorary Surgeon in Scotland to the King.

K.C.B. (Military Division)

ALEXANDER HOOD, C.B., C.B.E., M.D. Lieut.-Gen., late R.A.M.C. Honorary Physician to the King. Director-General, A.M.S.

Knighthood

HERBERT LIGHTFOOT EASON, C.B., C.M.G., M.D., M.S., F.R.C.S. President, General Medical Council.

JOHN HUTSON, O.B.E., V.D., M.B., C.M., D.P.H. For public services in Barbados.

C.B. (Military Division)

FRANK CUNINGHAME COWTAN, M.R.C.S., L.R.C.P. Air Vice-Marshal. Honorary Surgeon to the King.

WILLIAM HAROLD EDGAR, O.B.E., M.D., B.S. Surg. Rear-Admiral. Honorary Physician to the King.

ALISTER ARGYLL CAMPBELL MCNEILL, M.B., B.Ch. Major-Gen., Indian Army. Honorary Surgeon to the King.

OSWALD WILLIAM MCSHEEHY, D.S.O., O.B.E., M.B. Major-Gen., late R.A.M.C. Honorary Surgeon to the King.

C.M.G.

WILDER GRAVES PENFIELD, M.D., F.R.S.C., Hon. F.R.C.S. Head of the Neurological Institute of Montreal; Professor of Neurosurgery, McGill University.

C.I.E.

RAI BAHADUR ANIL CHANDRA BANERJEA, M.B., B.S., D.P.H. Director of Public Health, United Provinces.

HENRY CHARLES DEANS RANKIN, O.B.E., M.B. Col. (temp. Brig.), R.A.M.C. Honorary Surgeon to the Viceroy. D.D.M.S., General Headquarters, India.

C.B.E. (Military Division)

HARRY AITKEN HEWAT, M.B., Ch.B., D.T.M.&H. Air Commodore, R.A.F.

WILLIAM ERNEST TYNDALL, *M.C.*, M.B., D.P.H. Lieut.-Col. (temp. Brig.), R.A.M.C.

C.B.E. (Civil Division)

ALBERT ERNEST ARCHER, M.D., Lamont, Alberta. President, Canadian Medical Association.

GEOFFREY JEFFERSON, M.S., F.R.C.S. Consultant Adviser to the Minister of Health in Neurosurgery; Professor of Neurosurgery, Manchester University.

O.B.E. (Military Division)

GEORGE JAMES ALEXANDER, *M.C.*, M.B., F.R.C.S. Lieut.-Col., R.A.M.C.

FREDERICK KNOWLES ESCRITT, M.R.C.S., L.R.C.P. Major (temp. Lieut.-Col.), R.A.M.C.

WILLIAM ARTHUR HOPKINS, M.D., B.Ch., M.R.C.P. Surg. Cmdr., R.N.

ARCHIE MCCALLUM, V.D., M.D. Surg. Capt., R.C.N.V.R.

CECIL HOMER PLAYFAIR. Lieut.-Col., R.C.A.M.C.

KHAN MOHAMMED SANA. Capt. (temp. Major), I.M.S., Indian Army.

IVAN STUART WILSON, *M.C.*, E.D., F.R.C.S. Col., New Zealand Military Forces.

O.B.E. (Civil Division)

WALTER MARTIN ASH, M.B., D.P.H., F.R.C.S.Ed. County M.O.H. for Derbyshire. For services to Civil Defence.

ROGER CALLEJA, M.D. Colonial Medical Service. Senior Medical Officer, Nyasaland Protectorate.

PETER S. CAMPBELL, M.D., C.M. Medical Officer, Public Health Department, Nova Scotia.

DAVID SYDNEY DAVIES, M.D., B.Ch., F.R.C.S. Physician at His Majesty's Legation at Teheran.

ROBERT DAVIES DEFRIES, M.D. For outstanding services in medical research.

GERALD SYLVESTER HARVEY, M.B., B.Ch. Surg. Capt., R.N. (ret.). Senior Medical Instructor and Deputy Commandant, Ministry of Home Security School, Falfield.

ROBERT THOMAS HICKS, M.R.C.S., L.R.C.P. Major, I.M.S. Civil Surgeon, Cuttack, Orissa.

ERNEST VILLIERS HUNTER, L.M.S. For missionary medical work in the Uganda Protectorate.

A. LESAGE, M.D. Dean, Faculties of Medicine, University of Montreal. For valuable services to medical research.

EDWARD SALTERNE LITTLEJOHN, M.R.C.S., L.R.C.P. Medical Superintendent, L.C.C. Certified Institution, Epsom.

PATRICK FREDERICK MCFARLAN, M.B., Ch.B., F.R.C.S.Ed. Chairman of the Board of Directors, Stirling Royal Infirmary.

The Honourable WALTER SYMINGTON MACLAY, M.D., M.R.C.P. Medical Superintendent of Mill Hill Emergency Hospital.

CHINTAMIN GOVINDA PANDIT, M.B., B.S., Ph.D., D.P.H., D.T.M. Director, King Institute, Guindy.

JELAL MOOCHOOL SHAH, M.B.E., M.R.C.S., L.R.C.P. Lieut.-Col., I.M.S. (ret.). Superintendent, J.J. Group of Hospitals, Bombay.

I.S.O.

HUGH HUNTER COWPERTHWAITE, M.D., M.S. Visiting Surgeon, Department of Public Health and Welfare, Newfoundland.

JOHN JOSEPH HEAGERTY, M.D., C.M. Director, Public Health Services, Department of Pensions and National Health, Canada.

M.B.E. (Military Division)

CLIVE ORMSBY BARNES, M.B. Capt., R.A.M.C.

CHARLES FRANKLIN EGAN. Capt., R.C.A.M.C.

RONALD EDSCER JOHNSON, M.B., Ch.B. Capt., R.A.M.C.

JOHN CLIFFORD RICHARDSON. Major (acting Lieut.-Col.), R.C.A.M.C.

CHARLES GORDON SCORER, M.B., F.R.C.S. Temp. Surg. Lieut., R.N.V.R.

ARTHUR CARMAN SINGLETON. Major, R.C.A.M.C.

M.B.E. (Civil Division)

JOHN BREBNER, L.M.S. Capt., I.M.S. Civil Surgeon, Chittagong, Bengal.

P. A. CREELMAN, Charlottetown. Head of the Tuberculosis Service, Prince Edward Island.

MILTON AUGUSTUS STRIEBY MARGAI, M.B., B.S. Medical Officer, Sierra Leone.

FREDERICK CHARLES MIDDLETON, M.D. For valuable work as Secretary, Saskatchewan Cancer Clinic Service.

KALIDAS MITRA, M.B., D.P.H., D.T.M.&H. Officer-in-Charge, Nutrition Scheme, Bihar.

MUHAMMAD JUNAID OURAISHI, M.R.C.S., L.R.C.P. Colonel in State Forces and Chief Medical Officer, Rampur State.

A. MARGUERITE SWAN, Winnipeg. Chairman of the Manitoba Nutrition Committee.

ROWLAND PATERSON WILSON, M.B., Ch.B., F.R.C.S.Ed. Medical Officer-in-Charge of the Giza Eye Hospital and Laboratory in Cairo.

Hon. M.B.E. (Civil Division)

NAIF AMIN HAMZEH, M.D. Medical Officer, Government Hospital, Haifa, Palestine.

Kaisar-i-Hind Gold Medal

GALEN FISHER SCUDDER, M.D., D.T.M. Scudder Memorial Hospital, Ranipet, North Arcot District, Madras.

Correspondence

Reaction to Typhus Vaccine

SIR,—It may interest some of your readers who are contemplating a course of typhus vaccine if I relate my personal experience following a second injection of Cox's typhus vaccine.

The first injection of a second course (the first course of three injections was twelve months before and symptomless) had no local or constitutional reaction, and a week later I received the second injection—on Nov. 24, 1942, at 12.30 p.m. On the following day at 4.30 p.m. I experienced the most alarming symptoms, for, suddenly, while sitting down to tea, I became aware of a tachycardia, and a few moments later, without any impairment of reasoning power, I felt that my mind had left my body and I appeared to be looking down on myself sitting in a chair. I felt convinced that I was experiencing the transition stage between life and death. It was not until some months later, while relating this experience to a well-known epidemiologist, that I had my attention drawn to this state of dissociation as a symptom of typhus which was frequently referred to by Murcheson in his treatise on *Continued Fevers of Great Britain*, and recently described by Dr. Melville Mackenzie in the *Proceedings of the Royal Society of Medicine* (1941, Nov. 21, **35**) as follows: "Dissociation delusions are often characteristic in the later stages of typhus. Thus the patient asks for his chin to be taken off for shaving, for his legs to be hung up at the foot of the bed or in the wardrobe, or he imagines that he has left a leg lying about downstairs." Dr. Mackenzie states that he has been so struck by this type of delusion that it may be of great value in the diagnosis of typhus in the second week of the disease.—I am, etc.,

Southampton. H. C. MAURICE WILLIAMS.

Control of the Head Louse

SIR,—Dr. Gamlin's observations on the new methods of treatment for head lice deserve careful attention. Some of his conclusions are, I believe, unjustified, but all are significant.

The lethane hair oil has been investigated in many centres by a great number of doctors and nurses, the almost unanimous opinion being that it is better than others hitherto used, both on grounds of efficiency and convenience. This was a judgment of comparison: as regards absolute effectiveness there was a considerable difference of opinion. The figures that Dr. Gamlin

quotes (0.916% to 35% failures) are the extremes of the range of variation. I believe that this difference of absolute values depends on the relative efficiency of the operators in two respects—viz., thoroughness of application and care in examination for surviving larvae. Dr. Gamlin rightly describes the way in which a few small larvae can be overlooked. As regards efficiency of treatment, this mainly depends on the amount applied, which is difficult to standardize owing to variations in the amount of hair.

The statement that thiocyanates kill nits is called into question, so that I would like to quote laboratory data proving that this is true. By lightly spraying lice or nits with solutions of various insecticides it is possible to determine the amounts necessary to kill 50 or 100%. Figures for the substances in question are as follows:

	Amount (mg./sq. cm.) to give a complete kill of:	
	Lice	Nits
A. β-butoxy-β′-thiocyanodiethyl ether	0.027	0.036
B. Thiocyanethyl laurate	0.090	(Not determined)
C. Lauryl thiocyanate	0.077	0.186

(N.B.—Lethane hair oil contains 6.25% A and 18.25% B.)

It is clear that minute quantities of thiocyanate are lethal to louse eggs. Failure to obtain a complete kill in practice must be due to the difficulty in wetting every nit on an infested head with a small quantity of fluid.

The volatile principle in "lethane 384 special" which Dr. Gamlin mentions is the β-butoxy-β′-thiocyanodiethyl ether. The other ingredients (thiocyanethyl laurate and lauryl thiocyanate) are scarcely volatile (vapour pressures similar to that of mercury). Much oily material can be drained out of a head by contact with pillows and hats.

In the original paper by Prof. Buxton and myself (*Journal*, 1942, **1**, 464) we stated that the insecticide should not be distributed by combing. That has sometimes been misread as a positive injunction not to use steel combs. Removal of nits may be desirable for several reasons—e.g., aesthetic, to reassure patients or parents, or to differentiate new infestations. Fine combing can easily be combined with the lethane treatment by applying the oil after combing, if conscientious nurses or orderlies can give the time. But lethane treatment alone will probably be more readily used by many infested persons not under discipline or compulsion. In our experiments Buxton and I obtained about 95% success with one treatment only. Two treatments spaced a week apart should give a vanishing proportion of failures.—I am, etc.,

J. R. BUSVINE.

Psychiatric Treatment in General Hospitals

SIR,—The admirable facilities described by Dr. Dalton Sands (May 22, p. 628) as obtaining at the Sutton Emergency Hospital, and advocated in your leader as measures meriting wider application in post-war reconstruction, nevertheless constitute no real advance upon those obtainable in the best examples of the public mental hospitals to-day. That this should be the case is not surprising, since it was by the adoption of methods already proved in the modern mental hospitals that those of Sutton and similar emergency hospitals were derived. The alleged advantage of the general hospital as against the mental hospital is, in fact, reducible solely to the matter of "stigma," from which it is argued that the former are free. Now this plausible suggestion upon examination has been found to be invalid, since precisely the same stigma we know speedily becomes attached to the "mental ward" of the general hospital; this, we would add, is not surmise, but actual knowledge which could be exemplified and independently attested. To suppose that the substitution of the word "neuropsychiatric" for "mental" will change the connotation is to underestimate the powers of public discernment. To attempt to relegate the mental hospitals proper to their former melancholy role of custodianship largely of the chronic incurable (our diminishing heritage of pre-therapeutic days) not only would be a poor return to those who have initiated and evolved those therapies, which Dr. Sands now seemingly wishes to appropriate for more particular use elsewhere, but would be a public disservice, since, if implemented, it would deprive the mental hospitals of opportunities for further advances, because potential recoverability is here an indispensable prerequisite. Fortunately, the public have already become aware of the merits of, and facilities offered by, the mental hospitals of to-day, and the success of the voluntary system testifies that the bogy of "stigma" is a rapidly diminishing deterrent.

The following statistics refer to the Warlingham Park Hospital, which is the mental hospital for the County Borough of Croydon, and serves a population of approximately 240,000:

Year	Total Number of Direct Admissions			
	Certified	Temporary	Voluntary	Total
1932 ..	119	0	6	125
1942 ..	40	12	225	277

They demonstrate clearly that there has been a revolution in the mode of admission duing the last decade. The great increase in the number of admissions is not attributable to any increase in the incidence of mental illness, but to the rapidly diminishing prejudice against mental hospitals, resulting in large numbers of psychoneurotics as well as psychotics seeking admission. They also demonstrate how the number of patients needing certification in an area can be materially reduced when full use is made of the provisions of the Mental Treatment Act, combined with active therapeutic procedures.

Dr. Sands's figures regarding the financial advantages of neuropsychiatric units are particularly misleading. They are based on the assumption that his patients would have been untreated and become chronics had they been admitted to mental hospitals. On the contrary, there are many county and county borough mental hospitals where exactly the same facilities for treatment are available to the patients as obtain at the Sutton Emergency Hospital, at a cost to the ratepayers of below 35s. a week, which is less than half the sum he mentions as the cost of their treatment in a general hospital.

While we recognize the desirability of having mental wards or blocks attached to the great teaching hospitals, we are of the opinion that the mental health of the community will be best served not by setting up new centres of treatment and calling them neuropsychiatric units but by concentrating attention on the already existing mental hospital, and would urge that the first change called for is a substantial increase in the numbers of both the medical and the nursing staffs of the mental hospitals. Such changes, combined with the full utilization of the provisions of the Mental Treatment Act, would transform our hospitals, and incidentally might prove that the "chronic insane" are not so chronic after all.—We are, etc.,

T. PERCY REES.
W. H. SHEPLEY.

Warlingham Park Hospital, Surrey.

SIR,—Dr. Dalton Sands's article (May 22, p. 628) on the treatment of psychiatric patients in general hospitals marks a distinct advance in the approach to the extensive psychiatric problem, and I suggest that he send, with his compliments, a reprint to the Board of Control, so that the matter may be brought officially to their notice. It is true that Dr. Sands's cases were carefully selected. But, in view of the control possible by modern methods of treatment, the time has clearly come when all large general hospitals should have a neuropsychiatric ward or unit to which every clinical type of psychiatric disorder could be admitted.—I am, etc.,

FREDERICK DILLON.

London, W.1.

Slow Union of Fractures

SIR,—As a general surgeon I approach the subject of slow union of fractures with trepidation and due humility. However, my experience of fractures dates from before the last war and, of late years, has been extensive. Certain aspects of the problem have not had the attention they deserve. Causes of slow union may be classified as constitutional and local. In these days stress is laid on the latter to the exclusion of the former. Experts have, quite rightly, broadcast the importance of accurate reduction and adequate immobilization. My object in writing this letter is to bring forward the suggestion that there is a specific constitutional factor, peculiar to the individual, which is responsible for callus formation. How, otherwise, can one account for the great variation in time taken to obtain union in similar fractures in patients of similar type? Again, in some patients muscle may lie between the bone ends and yet union will take place by means of a bridge of bone over the muscle.

I have formed the impression, difficult to substantiate, that union is delayed when fractures are multiple—as if the callus-forming capacity of the body is limited. Among the large number of fractures that I have treated the few that have required a bone graft have been in apparently fit, muscular men. Shaft fractures in the aged and frail usually unite without trouble. I have treated a number of fractured femurs in which the bone has been affected by osteitis deformans. Even when reduction has been imperfect union has been rapid and accompanied by abundant callus formation. In these disjointed observations may lie the clue to the problem. The biochemist who can solve it will do a service to humanity. In conclusion I will quote one case.

A soldier 21 years of age sustained a closed fracture of the femur and an open fracture of the leg bones. About two inches of the middle of the shaft of the tibia was comminuted into three fragments, each, apparently, detached from any blood supply. I removed one fragment and wedged the other two into position as grafts. The limb was encased in plaster and slung on a bent Thomas splint, with moderate skeletal traction to femur and leg bones. The outlook seemed to be bad: there were multiple fractures and one was compound; union in fractures below the middle of the tibia is notoriously slow; the loose fragments were avascular. Yet note the result. In six weeks the femur appeared to be firmly united. In twelve weeks a mass of callus united the tibial fragments, and the patient was able to get about with the aid of a calliper. Surely this patient was lavishly endowed by Nature with the specific factor which I venture to postulate.

—I am, etc.,

Northampton. C. C. HOLMAN.

Night-vision Tests

SIR,—The papers on testing night vision by Dr. K. J. W. Craik and by Dr. John Yudkin and Mr. Andrew Ferguson in your issue of May 22 are without doubt of great interest. But there are certain points which these writers and investigators overlook—at least, according to my reaction to eye work of such a type. These three writers are research workers of distinction. The work they do and can do is impressive; but it is wholly or mainly associated with first-class laboratories, where equipment is as perfect as it can be and where exceptional construction can be carried out by technicians. In their criticism of my disk-spotting night-vision test they write wholly from the point of view of the laboratory; whereas I, in relating my experiments and observations on night-vision testing, took my impressions and made my arrangements as a worker now cut off from all laboratories and alone, in a position similar to that of the majority of ophthalmic medical practitioners. I had evidence of other tests being made, and was sure that these tests, however perfect they might be in theory and in the care given to their make-up, were not tests that independent and solitary eye-men could get or could make use of effectively. So my test was designed to meet solitary needs, and from the personal evidence of colleagues it appears to meet those needs.

In my papers on the disk-spotting test I made it plain what was the basis of the test. It was a simple imitation of what we see in the sky on a clear night—spots of light-stars. Folk with good sight and good night vision can see and count stars with amazing accuracy. Some stars shine with their own light, and planets reflect the hidden sunshine. The disk-spotting test is an imitation of the latter. The candle in its box shines on the white disks, which reflect the light. The distance at which the folk could see and count the disks showed their measure of night vision. Children said the disks were stars! And the reaction of interest to the test by men, women, and children, and by colleagues, showed that it is attractive; and a test that has an attraction generally gets the best reaction. Further, I have shown how easily the lighting can be varied to test those who are suspected of shamming night-blindness.

The next point I had in mind in designing this test was to make it so simple that anyone, anywhere, could make it for himself and obtain a reasonably accurate reaction. The first test I made myself. It worked well. The description given of the test is such that I am sure any eye-man could make one for himself if he were unable to get one from the London makers. That, I maintain, is a point of high value in comparison with the elaborate tests designed in the research laboratories. These cannot be made except by expert technicians.

Certain criticisms are made by these three writers on the use of the disk-spotting test. Rightly it is said that the disks vary in size to the eye of the subject according to the distance at which he stands. That is true. I found no disadvantage in that. People with poor night vision go closer up, where the disks are larger and easier to see; they get some reaction. The keen-sighted folk go further back, where the disks are smaller and harder to see: the returns by young people who could count at 8 metres are amazingly good.

The critics state their dislike of the use of the "standard candle." To most of us who have electricity the candle is an ancient light. But when the electricity is off, the candle is precious even to-day. The variation of the "candle power" shown in the use of a candle by the critics amazes me. It is evident that they did not take any steps to adjust the working of the candle. My candles behaved well, and I always had a means of accurately, quickly, and easily checking their burning, and without looking at them. The candle was lighted and put into position, and shone on the disks for 15 minutes. Then I could always count the disks myself at the distance of 5 metres. If at any time during a series of tests the light varied so that I could not count at 5 metres or could count further away, then I knew the candle was burning poorly, and I duly adjusted it, wearing dark glasses. Also, I never used a candle for more than one hour; it was then discarded. I think all eye-men would use the candle in this way, for we are always watching the test submitted to the patient.

I have used this test in five different sorts of places—a corridor, large rooms, a big hall, an Army Nissen hut, and at my home. In each it worked well. It is of light weight, easily carried, and independent of any wired connexions. So it may be of use in conditions that demand an easy and convenient night-vision test. The charts of the reactions of groups of subjects of different ages seem to me to be reasonable evidence of its effectiveness in classifying individuals.

Regarding the time of adaptation to the darkness, I found 15 minutes generally useful. But anyone who failed to pass the test reasonably at the distance of 5 metres was given a double time—sometimes, when the person desired it, even more. But cases that showed a gain by such extra time were very few. All my folk were well fed.

—I am, etc.,

N. BISHOP HARMAN, F.R.C.S.

BIBLIOGRAPHY

Craik, K. J. W. (1943). *British Medical Journal*, **1**, 632.
Harman, N. Bishop (1941a). Ibid., **1**, 636.
—— (1941b). Ibid., **2**, 347.
—— (1941c). Ibid., **2**, 737.
—— (1943). Ibid., **1**, 43.
Yudkin, J., and Ferguson, A. (1943). Ibid., **1**, 633.

An Unusual Retrocorneal Phenomenon

SIR,—Dr. H. M. Tietze's report (May 29, p. 665) of a globule of vaseline floating in the anterior chamber is very interesting and must be very rare. His citation reminds me of a case (first seen at Newcastle by Mr. Arkle) in which a spicule of glass remained free in the aqueous for many months. In the erect position it disappeared, and could be seen only when the subject was directing his gaze downwards: in this position it could be detected in the corneal concavity. Symptoms of irritation (probably endothelial) indicated operation. This necessitated an incision in the periphery of the cornea, with the patient lying on his front, his head protruding over the end of the table, and the eyes turned downwards. The aqueous being released, the glass spicule was found in the wound and easily removed. The eye retained useful vision, and the attacks of irritation ceased (see *Trans. Ophthal. Soc. U.K.*, 1930, **50**, 118).—I am, etc.,

London, W.1. F. A. JULER.

Treatment with Tuberculin

SIR,—Dr. H. V. Morlock and Dr. N. L. Rusby (May 22, p. 648) confirm the timely warnings regarding "ambulant" A.P. treatment which have been appearing in your correspondence columns lately, and rightly state that the cure of phthisis can only be attained by the patient developing resistance to the disease by the measures embodying the "sanatorium routine." Yet, failing actual residence in a sanatorium owing to shortage of accommodation—the point which originated the correspondence under the above heading—there is a remedy that acts by raising and developing the patient's natural resistance—namely, tuberculin. The successful clinical application of this property of the drug requires fine appreciation and judgment of the degree and variations of the natural resistance of each individual patient—a difficult art, which seemed to have been acquired by a few tuberculosis clinicians in the years immediately preceding the last war. Since that event, and apparently largely for reasons directly and indirectly consequent on it, the use of tuberculin has practically died out.

In the sanatorium in which I was a patient, and later A.M.O., some thirty years ago, the majority of patients in the earlier

stages of the disease were given tuberculin, and from correspondence my wife and I have kept up since I gather that quite a number of my fellow patients are still alive, well, and working—a number considerably in excess of the statistical figures relating to the expectation of life for consumptives. Others, it appears, remained well until carried off in the course of time by other illnesses. Some of us had prior courses of autogenous vaccines with the object of reducing mixed infection, a procedure which in my case was very successful. Tuberculin was not given to cases with pyrexia unless it became reduced to a low degree by this means, or by "typhoid" rest. It was not withheld from apyrexial laryngeal cases.

Looking back on twenty-five years' clinical tuberculosis work, and as the result of my experience of their administration to and by myself and others, I believe that tuberculin and autogenous vaccines would be the most generally applicable and successful specific means of therapy alternative to sanatorium treatment. The ideal, of course, would be to inaugurate it while in sanatorium residence and continue it under the environmental conditions in which the patient is to live and work.—I am, etc.,

Old Colwyn. W. B. MARTIN.

Diet and Insulin in Diabetes

SIR,—The articles by Dr. Micks (May 15, p. 598) and Dr. Crooke (Jan. 16, p. 64) on the diet in diabetes have certainly caused a great deal of disturbance in people's minds who think that a scientifically worked out diet with an appropriate amount of insulin is always required to keep our diabetic patients under control. Though an imaginative and intelligent patient will learn to eat the required calories of each foodstuff, the less gifted and more casual diabetic will frequently follow a less arduous routine and may keep quite well on it so long as he takes sufficient insulin to prevent ketosis. There must be many who will have observed this in their daily practice, and Dr. Micks and Dr. Crooke have made public some facts which really were common knowledge but were against the scientific teaching on the diet of diabetes.

One frequently sees patients who have been stabilized on a carefully controlled diet and a certain amount of insulin and who religiously continued with this treatment over a number of years. They were periodically seen, and as they appeared to be well were advised to carry on. I have met a number of patients recently who were kept on 40 to 60 units of insulin daily for ten years or longer. They were admitted to hospital, and it was found that they could be kept stabilized on a very much smaller daily dose of insulin. Some required no more insulin, and a calorie control diet was found satisfactory in all cases. There must be many diabetics whose insulin requirements have become less but who are still continuing on their original diet and insulin doses.—I am, etc.,

Essex County Hospital, Wanstead. E. FRANKEL.

Treatment of Blackwater Fever

SIR,—A few years ago, before I had to cease practising in East Africa owing to an accident, I found that 8 to 10 gr. of sodium luminal (the soluble salt) intramuscularly cured blackwater fever at once. On leaving East Africa I asked my partner, Dr. J. R. Gregory of Nairobi, to continue this treatment and to let me know his results. He has written me recently that he has had a series of thirty cases, all of which he cured at once by giving each an intravenous injection of 15 gr. of phenobarbitone. He also mentions that Dr. D'Souza of Nairobi, whom he had told of this treatment, has had similar success with it.

I had always been struck with the great restlessness of mind and body in this illness in all races, and I reasoned with myself that if I could counteract these symptoms I should be master of the situation. Thirty years ago I used to give morphine for this restlessness, but I was never satisfied that it did any lasting good. Seeing that blackwater fever is now likely to be commonly met with by our medical officers in the Forces I think this treatment might be made known. I would have brought it to your notice before, but I have been laid aside since coming home.

In my series of eight cases the injection was given immediately on my seeing the patients about 7 p.m. At 10 a.m. next day, when I next saw them, there was no trace of blackwater fever. Of course they were given drinks of a solution of sodium bicarb. and glucose (or sugar); they were wakened during the night to be given these drinks. I had not to give any more luminal after the first injection; there were no recurrences.

Dr. Gregory has had the same experience in all his cases. He suggests that the luminal in this treatment may act in other ways than by doing away with restlessness. He has reasons for thinking so. When I hear from him again on the subject I shall let you know.

I have used the unscientific expression "cured at once" for the express purpose that it gives the picture exactly. I have had a life's experience in the treatment of blackwater fever and have tried every conceivable method and experiment, but I have never been even temporarily satisfied that I had found a cure until I hit on luminal. Vomiting and diarrhoea are common in this state; hence the necessity for giving the drug by injection.—I am, etc.,

Ballycastle, Co. Antrim. R. W. BURKITT.

Diagnostic "Tricks" for Pleurisy and Peritonitis

SIR,—The interesting diagnostic trick given by Dr. Stanley C. Raw (May 22, p. 648) prompts yet two others. There is a well-established central inhibition of respiration which occurs during swallowing, in order to prevent food particles being drawn by the ingoing current of air into the bronchi and lungs. This inhibition of respiration on swallowing a bolus of food or a mouthful of saliva lasts for five or six seconds. If the rigidity of the upper half of the abdominal wall is due to pleurisy, relaxation occurs during this period; if due to peritonitis, the rigidity is unchanged. Yet again, flexion of the head and neck on the trunk, as in looking at one's feet, produces contraction of the upper half of the rectus sheath. During such a movement the pain of pleurisy is not sharply increased, that of peritonitis is.—I am, etc.,

Anatomy School, Cambridge. H. A. HARRIS.

Pain and Cancer

SIR,—The late Lord Moynihan was lecturing to a lay audience on cancer and was pleading for the early case: "Get the case to the surgeon early and cures can be effected." One insignificant man in the back of the audience got up and asked, "How are we to know when we have got early cancer?" The peer was nonplussed. I am about to start some work on the signs and symptoms of early cancer, and appeal to readers for criticism of the following observations; they do not pretend to be facts but are impressions I have formed.

Much is being spent on discovering a cure for cancer. I submit that, while no one could consider the knife to be the ideal weapon, in the present state of our knowledge, or rather ignorance, of cancer, it offers the best prospect for internal cancer—excluding that of the mouth and uterus, which respond so well to radium. But for operative success the case must be seen early, so it would appear to be most profitable to discover what are the signs and symptoms of the early case.

Pain is the commonest symptom for which medical advice is sought; it is one of the blessings man is heir to, since it directs attention to dysfunction. Just as the first thing a gardener does before pruning a tree is to cut out the dead wood, so in the approach to early cancer we must cut away all useless signs, chief of which is pain. Cancer is essentially painless in itself, it destroys nerves without stimulating them painfully. The lay public think cancer is painful from the start; nothing could be further from the truth; many cases, they would be surprised to know, run their course painlessly. Particularly is this so in gastric cancer, the disease pursuing its inexorable course till the end, which would appear to be like a Buddhist's haven.

The causes of pain in cancer would appear to be:

(1) *Secondary Infection.*—This is the rule in cancer of the lip and mouth; also of the breast.

(2) *Occlusion of the Lumen of a Hollow Organ.*—The stomach provides a good example of this; while the more usual is a painless malignant ulcer, less commonly a cauliflower growth, causing an *x*-ray filling defect, occurs; this occludes the lumen with the production of pain, which focuses attention to the stomach, which can be dealt with surgically. Cancer of the rectum impinges on the lumen of the gut late in the disease and so is painless until inoperable, when agonizing pain may develop. Pain localized to a definite point in

the course of the transverse or descending colon is a valuable symptom of a "ring" carcinoma. A hypernephroma may be palpable in the loin or cause painless haematuria long before it occasions pain, when this is due to clots or pieces of growth. Cancer of the bladder is painful only when it obstructs the ureters or urethra. A bronchial carcinoma gives rise to pain when it obstructs the bronchus. Headache, vomiting, and optic neuritis were the triad of symptoms on which cerebral tumour used to be diagnosed; the headache was due to disturbance in the circulation of the cerebro-spinal fluid. Uterine cancer sets up pain when it occludes the lumen.

(3) *The Formation of Adhesions.*—By this not very fortunate term I mean the prolongations and secondary fibrosis which accompany a spreading cancer; it is best seen in the breast. At the outset there may be some discomfort as the breast is pendulous and the tumour has a tendency to congestion. Soon, however, it spreads along the fibrous tissue of the breast and becomes, as Mr. Sampson Handley has pointed out, palpable to the flat of the hand; previously it was only palpable to the fingers. At this stage the cancer becomes somewhat painful but by no means so painful as many cases of interstitial mastitis.

—I am, etc.,

London, W.1. A. P. BERTWISTLE.

Coarctation

SIR,—Dr. H. S. Gaskell's criticism (April 3, p. 426) of the diagnosis in Dr. C. W. Walker's case of labour associated with congenital coarctation of the aorta contains so much that is inaccurate and obsolete as to call for comment. The view that necropsy is necessary to demonstrate the enlarged collateral vessels developed in coarctation is entirely out of date. Boyd, in his *Pathology of Internal Diseases,* explicitly states that the condition is diagnosable during life, and adds that the diagnosis is often not only possible but easy. Enlarged vessels along the dorsal border of the scapula may show pulsation not only palpable but visible. Characteristic crenations of the ribs produced by dilated mammaries and intercostals are demonstrable by *x* rays.

The stenosis in coarctation is not necessarily confined to the "isthmus." It can occur at the insertion of the ductus or below it. The left subclavian artery does not come off the aorta below the ductus, as stated by Dr. Gaskell, but above or proximal to it. Even a misapprehension as to the origin of the left subclavian, however, can hardly explain the extraordinary statement: "Common sense would seem to dictate that the blood pressure distal to the constriction would be low whereas a hyperpiesis is present." Common sense and an appreciation of physical principles would surely indicate a high pressure proximal as well as a low pressure distal to the constriction—i.e., the precise findings reported by Dr. Walker. Even in the rare cases where the constriction is proximal to the left subclavian there is a hyperpiesis in the right arm.

The view that the murmur described is the only item in favour of the diagnosis is more extraordinary still when one considers that high brachial and low femoral pressures, marked arterial pulsation in the proximal and collateral vessels, diminished or absent femoral pulsation, and cardiac enlargement are not only to be expected on theoretical grounds but are referred to in practically any modern textbook dealing with the subject. Incidentally coarctation is now regarded as more common than was formerly thought, and examination of the femoral pulse is advised in all cases of high blood pressure when first discovered.—I am, etc.,

Killygordon, Co. Donegal. JOHN G. O'BRIEN.

Multiple Muscle Herniae

SIR,—It was interesting to read the article on this subject (May 15, p. 602), because two years ago I came across some cases identical with those described, save that there were only two or three such muscle herniae. They were in infantrymen, who had recently had strenuous physical training and marching, and who were complaining of pain and aching after marching and drill. I operated on one to see whether anything could be done, but found the whole of the muscle sheath in that area was very thin and friable and the stitches mostly cut out. A darning suture, however, was done, and on discharge from St. Michael's Hospital after a short period of walking they had not recurred. Whether they did later I do not know as the patient went away from this area.—I am, etc.,

Hayle, Cornwall. W. H. PALMER.

Medicine and Politics

SIR,—Dr. Geoffrey Bourne, in two articles in your columns, has entered the field of politics which he otherwise so much despises. To him, apparently, everything is either good or bad, black or white, democratic or bureaucratic, political or scientific. However, reality is not a bit like that, and, despite his assertions, local government is not so black nor are voluntary hospitals so democratic as he depicts them. Local government is essentially a democratic institution, but the apathy of the electorate, the development of multiple authorities, the irregular size of the areas controlled and their historically developed peculiarities, forms of administration too rapidly outgrown—all call for a reform which cannot be postponed merely because solution is difficult. It is not surprising, therefore, that their hospitals have suffered. On the other hand, the voluntary hospitals have demonstrated the advantages of decentralized management, but they are not democratic in the sense that their management committees only represent the subscribers of about 30% of their total income. It must be remembered, too, that a medical service is not solely staffed by doctors; and nurses, for example, find no democracy *for them* in either type of hospital, though some local government hospitals are enlightened enough to grant a 96-hour fortnight, the right to live out and to get married, and an entrance into the service without an inquiry into social background.

Dr. Bourne is equally wrong when he contrasts politicians and doctors. We are all politicians, we all have a vote, can be members of political parties, argue in pubs or clubs, oppose progress or promote it, and write letters to the *Times* or the *Daily Worker.* Those who are elected by the people vary in their knowledge of history, government, and economics as much as doctors vary in their knowledge of science, despite the latter being qualified.

However, let us listen to Dr. Bourne: "History proves that scientific freedom and research are of vastly greater importance to humanity than administration." I suppose that this means that Dr. Bourne can prove from history that, etc.; but can he? How does he define scientific freedom, and, more important to us at this moment, how does he define medical and professional freedom? Is it the freedom to practise medicine in an unchanging way in a changing world; the freedom to treat rheumatism with salicylates instead of preventing it by rehousing; the freedom to prescribe bromides to those whose sufferings are psychogenic; the freedom to isolate the illness from the patient in his environment?

No, Dr. Bourne, it is not, for medicine is a social function, and the doctor's freedom is the freedom to serve man as he lives in society, and this cannot be done by groups of doctors sitting by themselves round a table, nor by research workers selecting subjects in "pure" medicine to contemplate in an ill-financed laboratory in disregard of the needs of the public. And then, if a neglected but conscious public starts consciously to plan for its needs, will we really lose our intellectual freedom if we help them?

Dr. Bourne, however, prefers the idea of doctors controlling themselves in splendid isolation to working in co-operation with the rest of society, because he is unable to see the alternative. He cannot imagine that the people and the doctors can work together without producing a rigid machine; he cannot see that the people and the doctors together can produce a living organization, and can devise forms that will enable a comprehensive health service to come into being which will preserve initiative and preserve the doctors' role of advising the public. Many things must be reconstructed after this war, and the public might well expect the doctors to take a part. Dr. Bourne prefers to pass pious resolutions: "Medicine and science must not be political"; I need add nothing to such a political statement.—I am, etc.,

London, W.1. HUGH GAINSBOROUGH.

SIR,—Now that you have opened your columns to political propaganda I do hope that we can all arrive at some clearer understanding of what we mean by politics. I myself cannot conceive of any definition that does not entail medical science being closely linked with political activity—acknowledge it or not as you will.

Dr. Geoffrey Bourne's article will confuse any genuine student. For instance, consider "a national comprehensive

medical service"—this is obviously a political matter on any definition. Does Dr. Bourne suggest seriously that doctors should not concern themselves or medical science is not concerned? It is quite possible and desirable that a political programme should feature medical research and scientific freedom prominently. It is quite impossible to do research or practise any science *in vacuo*. Stagnation and death inevitably follow even tendencies in that direction. Somewhere and sometime the research worker must relate himself to the society he works in, and he must enter the political field, either personally or through contacts.—I am, etc.,

TOM GARLAND.

*** We fail to understand the meaning of Dr. Garland's opening sentence. It has for some time been the custom of the *B.M.J.* to report activities of the Socialist Medical Association, of which Dr. Garland is a member.—ED., *B.M.J.*

State Control of the Medical Profession

SIR,—I think that it is important to analyse what is meant by the "State," for one is apt to look upon that word as symbolic of some super-power. Presumably it means, in effect, "Parliament," and we must attempt to analyse Parliament. This body contains a certain group of wise, and sometimes great, men and women, a large group of intelligent and sub-intelligent worldly-wise men and women, and a modicum of the ever-present "climbers" who will sacrifice all and anyone to achieve personal success, and of fanatics. No one doubts fanatics have done great things, but in a stable institution in an old country they are generally dangerous. The success of Parliament can be seen in two terrible wars in which our bravest, most honest, and truest have been sacrificed, and in the efforts of members to advance their political creeds when our country and empire are fighting for dear life and freedom.

If our great profession—and it is a very great profession—thinks it wise to put itself completely into the hands of this "State," I think all should recognize that, once done, there will be no escape. The profession will not be bound in chains but enclosed in an impenetrable net of steel from which no escape is possible, but the strength of the steel steadily increases. Naturally there is diversity of opinion on State control, but there can be little doubt as to what this implies in the great cry for freedom we hear on all sides: slavery for a great profession.—I am, etc.,

Bath. F. JOHN POYNTON.

Doctors and the Future

SIR,—The seven signatories from Bournemouth (May 22, p. 649) did well to pose their question. Is anything, they ask, really seriously wrong with our profession, and, if so, cannot something radical be done about it? They are even prepared, if the worst came to the worst, to consider "a panacea envisaged by idealists." Let them, anyhow, listen to the following.

Whoever wants to understand the real problems that beset the medical art at present must imperatively study them in connexion with what is going on in the State as a whole. The present holders of power in this country, basing themselves on the usual assumption that competition is the law of life, intend to make post-war Britain (or quite possibly Britain-America) the biggest "business" in the world, able to defy all competitors. To this end "our country" must obviously be mechanized through and through, turned into an industrial machine, and the vast majority of its inhabitants made either cogs in that machine or, at best, machine-tenders. The scheme indeed is already working in its early stages, and arrangements are being made that the medical profession shall progressively be enlisted to help in procuring the smoothest possible running of the works. In other words, the future role assigned to the doctor will be that of a "machine-minder." He is already becoming so, as witness the almost automatic and predominantly clerical duties which he is at present called upon to perform; to many a medical man, "signing lines" is now almost the chief business of his day.

To what I have said, however, quite a number of people will probably reply, "Well, if the doctor is properly paid for this, and if the work 'needs' to be done, why should he not do it?" My answer is that man is not, by his nature, a machine, and that therefore a persistent effort to mechanize the bulk of people will finally so violate their natures as to provoke terrible social convulsions. The present plan is not going to work, and practising doctors are infinitely better qualified than politicians to think out one that will. In any case, I have mentioned the essential preliminary considerations. What is happening in medicine is merely a symptom of a disease in a wider field, and doctors, above all people, should know that when a disease does not cure itself it must be tackled as a whole and not symptom by symptom. Let the members of our profession gird up their loins and become medico-sociologists. —I am, etc.,

North Queensferry, Fife. A. J. BROCK.

SIR,—Is it not a fact the dissatisfaction felt both by public and medical men alike with the present system of medical practice can be completely removed by three (relatively) simple measures?—the inclusion of the dependants of "panel" patients in the National Health Insurance scheme; the provision of wider consultation and laboratory facilities for these patients; and the institution of some form of insurance (on the lines of the Oxford Provident) to guard the "middle-class" patient against the disastrous expense of surgical operations and the like.

These three steps having been taken, would not any totalitarian system of State medicine appear to be ill timed, because of the years of crisis through which we are passing and have to pass; impractical, because of the vast expenditure involved at a time when economy will be the nation's imperative need; and ill conceived, because such a system must inevitably be negatived by the weight of stultifying bureaucratic control to which it would be subject? And, finally, are not your correspondents from Bournemouth, in the issue of May 22, to be congratulated on knocking the first piece of stuffing out of a singularly unconvincing medical "scaredoctor"?—I am, etc.,

Harrogate. FALKLAND L. CARY.

The Government's Proposals

SIR,—The Beveridge report provides for an increase of sick benefits, to qualify for which a medical certificate will be necessary. Sir William knows only too well that the whole scheme will collapse if the patient continues to receive the benefit of the doubt, as he always does and as he should always do. He will always receive it so long as his doctor remains his friend.

It is vain to argue about the precise form of control we are prepared to accept. Free treatment for all means a machine to work it, and that machine must be staffed and the financial control must be lay, and whoever controls the money will control the profession. We now see clearly the imperative need to kill private practice and to degrade a great profession. Starting with a comprehensive service and increased benefits, a free profession at once is encountered as a fatal obstacle. To a truly democratic mind a free profession would be axiomatic; to the modern planner it becomes quite clear that it must be liquidated. Safe with a salary the medical man of the future, recruited from the safety first section of the young, will have no difficulty in deciding that it is better to please his employers than to please his patients, and the funds will remain solvent.

Movement is not necessarily progress. We took a wrong step long ago when we consented to feed the hungry sheep with certificates. It has turned out rather badly, and the suggested remedy is a great new step in the same direction. Perhaps it would be wiser to halt awhile and consider whether we should not move back a bit. We shall produce only despair if we persist in supposing that the great evils from which humanity has so long suffered can be cured by a cash payment. —I am, etc.,

Hendon, N.W.4. R. W. COCKSHUT.

SIR,—I have talked with several general practitioners in this district and find that they are all in agreement with what Dr. Samuel Grasse states (May 29, p. 679). The only thing that we dislike about the proposals of the Government is the administration of the scheme by the local authority.

The things which I find we all want are: (1) compensation for loss of practice; (2) an adequate salary based on the Government's proposal (previous service to be taken into account for seniority and salary); (3) all expenses paid; (4) one month's holiday with pay per annum; (5) a fortnight's

study leave per annum; (6) a pension of two-thirds of the retiring salary at the age of 60; (7) a rota of duty so that the practitioner is not on duty for 24 hours a day and has the chance of an occasional week-end to himself.

As Dr. Grasse says: "Let a plebiscite be taken from the profession on the particular and specific issues involved." I find that there is absolutely no desire among the practitioners with whom I have discussed the matter to have an extension of the panel system with its inadequate remuneration, long hours of arduous work, and iniquitous competition.—I am, etc.,

Doncaster. H. M. BROWN.

SIR,—It is heartening to general practitioners, overworked and withal a little tired, to see signs of a general rebellion against a new planning of medical practice and the regimentation of medical men. It is heartening to know that some are daring to say that from the point of view of the general public the profession is the best organized in the country. Few organizations composed of free-acting individuals could work in fuller harmony with each other and the public they serve. The public realize the general efficiency of the organization, and their remarks on State interference on a broad scale are mostly unprintable.

The principles of this service to the public have been evolved by the profession and through its own initiative. Over and over again it has had to find the material with which to make its own bricks. The general public and notable individuals have not been backward in finding that material, and rapid progress has been maintained. The profession and the public are inseparably linked up, each a little jealous of the satisfaction of giving to the other of their best, and the intrusion of a third party—the State—with its infinite capacity for the destruction of initiative and gallant individual enterprise, will not be acceptable to any but the misfits on either side.

The Ministry weaken their case with the call of "urgency." There is no urgency except for them. Thousands of medical men are solely occupied with their Service duties and commitments, and those at home are dealing, not unsuccessfully but at the expense of much overtime, with the civil population. The Ministry must be aware that their chances of "planning" the profession will be slender indeed if they wait until normal, or comparatively normal, conditions return.

Let us be told simply what reforms the Ministry consider necessary, but let us see to it that they listen closely to those reforms that we consider necessary and help us to their attainment. We will willingly accept their help, but they will be unacceptable as senior partners. Their influence is too deadening for the progress which is rapid now and will be far more rapid after the war, and whose aim is the maintenance of health and the war against disease.—I am, etc.,

Kineton, Warwick. C. J. L. WELLS.

Obituary

FREDERICK GYMER PARSONS, D.Sc., F.R.C.S., F.S.A.

Prof. F. G. Parsons will be remembered by a long succession of former medical students of St. Thomas's Hospital as an able teacher who knew how to make all things seem simple. He was appointed lecturer in anatomy in 1886, and was professor of anatomy in the University of London and director of the department of anatomy at St. Thomas's from 1899 till 1929. In his early years he had a short experience of private practice, but quickly made the decision to give himself to the scientific side of his profession, with such notable results.

Parsons made many solid contributions to anatomical science and was prominent in the activities of the Anatomical Society. At the time of his death at the age of 80 he was its oldest member, having belonged to it for 54 years. He acted as secretary from 1895 till 1898, was treasurer from 1903 till 1908, and held office as president in 1912–14. He made notable contributions to discussions on subjects on which he had come to be recognized as an authority. In a long series of publications towards the end of the last century he provided a comparative study of the muscular systems of a large number of mammals, in the patterns of which the influences of natural affinity and of functional adaptation were alike recognized. This work was the outcome of meticulous dissection and exact observation combined with careful interpretation, and it remains outstanding principally for the enduring value his records hold for future workers. His masterly Hunterian lectures of 1897 and 1899 summarized the principal results of this phase of his researches. During the same period he published a number of articles on human topographical anatomy, of which particular mention may be made of those dealing with the cervical fascia, the caecum, and the parotid gland. At the same time he was developing his interest in the human skeleton, and published papers on bone and joint morphology.

A new phase in his work came with the examination of individual variation in bones of the human skeleton, which led on to his anthropological studies. Beginning with a survey of the hyoid bone, he produced papers on the English clavicle and femur. He made no attempt at the elaborate statistical methods of treatment subsequently employed by biometricians on similar studies. To their criticisms he pointed out that his data were available for those who cared to analyse them mathematically, and he in his turn criticized the type of mathematician who, with the most elementary biological knowledge, attempts to treat bones as geometrical figures rather than as living structures with a form closely related to function. Parsons's osteological studies led him to the examination of ancient skeletal remains, the comparison of which with modern populations gave him particular interest. He reported on the collections of crania at Hythe and Rothwell in 1908 and 1910 in the *Journal of the Royal Anthropological Institute*. In 1920 he gave an account of the Long Barrow race and discussed its relationship to the modern inhabitants of London, his conclusions being summarized in his book *The Earlier Inhabitants of London* (1927).

During the last war he took the opportunity provided by the presence of German prisoners of war in this country to examine their racial features, and he showed that the "Nordic" contribution to the modern population of Germany is very slight except along the coasts and in the Rhine valley. Subsequently he collected a considerable number of the skulls of Anglo-Saxons who lived in this country, and in 1928 he published an atlas showing the results of his measurements. Many other anthropological contributions appeared at short intervals. Parsons was elected a Fellow of the Royal Anthropological Institute in 1904, was a member of its Council for many years between 1910 and 1930, and held office as vice-president from 1920 to 1923. He was elected president of the Anthropology Section of the British Association in 1927, when he contributed an address on "The Englishman of the Future."

Beside all these activities Parsons concerned himself with the medical curriculum. In co-operation with William Wright he produced in 1912 a short practical dissecting manual designed to focus the attention on essentials and relieve the student of much burdensome attention to detail. This attempt came somewhat too early for complete success, but it paved the way to the present recognition of danger in the over-elaboration of students' textbooks. The London Anatomical Committee, which has played so valuable a part in the maintenance of anatomical supplies to the medical schools of London, virtually owed its creation and preservation to Parsons, who served as its secretary for over fifty years, and many colleagues remember his labours with gratitude.

Parsons was devoted to St. Thomas's, where he spent the whole of his academic career. He is remembered by his contemporaries for his zeal in developing the amenities available to students and for his encouragement of a healthy social life in the medical school. A more lasting memorial of the interest he felt for his Alma Mater as well as for his antiquarian leanings is given by his outstanding *History of St. Thomas's Hospital*, in three volumes, published from 1932 to 1936. In these he shows us the beginnings of a great London hospital, the development of a medical school at St. Thomas's Street in the Borough, where a part of the St. Thomas's Hospital buildings now remain (with some recent damage) as the entrance courtyard to Guy's Hospital, and the eventual removal of hospital and medical school to its present magnificent and breezy site on the Embankment.

For many years Parsons was an active member of the Society of Apothecaries, in which he attained high office. He joined in 1898 and was a member of the Court for the last seven years of his life. He was elected Senior Warden in 1941. For over 40 years he acted as examiner in anatomy to the Society. He also examined for many of the medical schools of Great Britain and Ireland in the course of his long career. His objective outlook and sense of humour are illustrated in the amusement he felt on recalling the irreverent attitude of the students in Dublin to the "foreigner."

Parsons was a man of many activities and wide interests. In later life he recalled that he had sometimes been urged to confine his work to some narrower field. But he maintained his preference for a life in which full rein can be given to one's interests rather than for one in which too much is subordinated to ambition; he had no regrets at having allowed himself a varied life. He was a man of transparent honesty coupled with a bluntness at times disconcerting to his friends. He was an assiduous worker. Even on his holidays he seemed to scorn ordinary delights and lived laborious days. He would make long cycle trips to visit French cathedrals or old English towns. On these journeys he was never happier than when tired out, wet through, and shelterless. On one occasion when an influenza

epidemic had come to England he was discovered absent from the hospital. His friends became concerned at this unheard-of thing and sent an emissary to his home to see how ill he was, only to find that he had gone out to "walk it off." A hobby in which he excelled was wood-carving, and his own house was decorated with charming work of his own creation. On his retirement Parsons went to live in lovely surroundings at Princes Risborough, and there pursued his antiquarian bent to the end in the study of local archaeology. During the present war he was compelled to leave this home and went to live at Thame, where he promptly became engaged in an account of local inns, for which this old market town is so well known. And so has ended a fruitful and contented life.

A. B. A.

G. R. FOOTNER, O.B.E., M.B., F.R.C.S.

George Rammell Footner, who died on May 16, was educated at Marlborough, at Pembroke College, Cambridge, and at St. Thomas's. He obtained the University scholarship to the hospital and later on tied with L. E. C. Norbury for the Beaney scholarship in surgery. He was a good cricketer and was one of the outstanding batsmen in his college and hospital teams. He held all the junior surgical house appointments, but when Norbury obtained the surgical registrarship in 1907 Footner went as R.S.O. to the Royal Infirmary, Derby.

In 1910 he joined the Sudan Medical Service, then the most highly qualified though smallest Service of its kind. His work at first gave little scope for his surgical talent, but when the Civil Medical Service gradually took over from the Medical Corps of the Egyptian Army the work in the Southern Sudan, Footner was appointed medical inspector to the Upper Nile Province. With his headquarters at Malakal, and making great use of the Nile hospital ship the *Lady Baker*, which he helped to organize and fit out, he began the pioneer medical work among the Dinka, Shilluk, and Nuer tribes which later on assumed great proportions. Unfortunately an encounter with a wounded lion nearly cost him a limb and resulted in an almost completely ankylosed knee. On recovering from the injury he was transferred to Khartoum as the first senior surgeon appointed in the Sudan Service, which was then passing through a stage of rapid development. Later he became as well the first lecturer and teacher of surgery in the newly constituted Kitchener Medical School. In 1928 he retired from the Sudan and from medical practice, living first at Winchester and later in Cornwall. At the outbreak of war he undertook work of various kinds, mainly medical boards and helping in local general practice.

Footner's tall spare athletic figure commanded attention. He was a fine example of the type of surgeon most needed in the Tropics, where character and example as well as professional ability are particularly important. He had strong sensitive hands and a sound surgical technique. A man of high purpose, he demanded a very efficient standard from others as well as from himself. He was intolerant of anything slipshod or second-rate, and he exercised an enduring influence on those Sudanese medical students that were the first to pass through the Kitchener School. He bore his last illness with exemplary courage and fortitude and was actually working to within ten days of his death. He leaves a widow, a daughter and two sons, and a large circle of friends and acquaintances to mourn his loss.

H. C. S.

G. F. WILSON, L.M.S.S.A.

We regret to announce that Dr. G. Frederick Wilson, secretary of the West Ham Panel Committee and a former chairman of the Stratford Division of the B.M.A., died on May 20. The following tribute comes from H. C. B.:

The foundations on which any edifice is built are rarely, if ever, exposed to view. Yet without them the visible superstructure could not be erected, or, if erected, would be in imminent danger of collapse. This generalization is as true of associations of human beings as of conglomerations of building materials. The bedrock on which our Association is founded is not its house, its officers, its Council, its A.R.M., or any such visible manifestations—it is the work done by a number of hard-working loyal disinterested colleagues who undertake the routine day-to-day work of professional organizations. Much of this work is unseen and unsung, except by those in intimate contact with it—yet without it our Association would be moribund instead of full of vitality. A fine example of such a colleague was Dr. G. F. Wilson, whose death will be felt widely in professional circles. Son of a West Ham doctor, he received his medical education at the London Hospital and then followed his father in his practice. Here the greatest part of his professional life was spent, and here he showed those qualities of painstaking detailed work for his colleagues which bound him so closely to those associated with him. He was chairman of the Stratford Division for two periods, a member of its executive committee for many years, and one of its representatives to the A.R.M. on eight occasions. He was secretary of the West Ham Panel Committee and chairman of the Insurance Committee twice, occupying this position at his death; he was also chairman of several of its subcommittees. Dr. Wilson took a considerable part in the building of the Essex Public Medical Service, of which he was a past chairman. He was also active in medical golfing circles and was secretary to the Stratford Medical Golfing Society. Dr. Wilson retired from practice before the outbreak of the war, but later took up the position of medical officer of civil defence for the western area of Essex. Here also he built up for himself a reputation for hard work and loyal service and became popular amongst his colleagues. In wishing him farewell, and extending their sympathy to his widow, herself a good friend of ours, members of the Stratford Division realize what a difficult place to fill will be that occupied by Dr. Wilson.

LESLIE J. PATON, F.R.C.S.

We regret to announce that Mr. Leslie Paton, consulting ophthalmic surgeon to St. Mary's Hospital and the National Hospital, Queen Square, died in London on May 15 after a long illness.

Leslie Johnston Paton was born in Edinburgh in 1872 the second son of James Paton, F.L.S., Curator of Picture Galleries and Museums. The family migrated to Glasgow when he was 4 years old, and he later attended Glasgow High School and the University, passing on to Caius College, Cambridge, with a scholarship in 1891. There he remained for six years, teaching botany and physiology until he entered St. Mary's Hospital in 1897. At the same time he joined the teaching staff of his friend T. M. Taylor (afterwards Sir Thomas Taylor), who was head of Wren's coaching establishment, in Powis Square, Bayswater, teaching physiology to help his then slender finances. Qualifying B.Ch.Cantab. in 1900 he became house-surgeon to Edmund Owen at St. Mary's in 1901, and took the M.B. and F.R.C.S. a year later. He demonstrated anatomy during that year, and was then appointed assistant ophthalmic surgeon to Henry Juler, succeeding to the senior post in 1911. Meanwhile, in 1907, he had been appointed to succeed Marcus Gunn as ophthalmologist to the National Hospital, where for the four remaining years of Hughlings Jackson's life Paton followed the teachings of that great neurologist. Twenty years later he inaugurated the endowment of the Hughlings Jackson lecture during his term of office as president of the Neurological Section of the Royal Society of Medicine. Paton had the double distinction of being chosen president both of that Section and of the Ophthalmological Society of the United Kingdom. At the Annual Meeting of the British Medical Association in 1909 he was secretary of the Section of Ophthalmology and in 1934 he served as president. He had been treasurer of the International Ophthalmological Council and was an honorary member of numerous foreign ophthalmological societies. He contributed many notable papers to the literature of his subject, the most important probably being "The Pathology of Papilloedema" in *Brain*, 1911, and "The Classification of Optic Atrophies," 1930. His Mackenzie Memorial Lecture in 1937 was devoted to optic neuritis. As chairman and managing director of the *British Journal of Ophthalmology* he wielded much influence and was ever on the look-out for rising talent.

Dr. WILFRED HARRIS writes:

Paton's only form of exercise of late years was golf, of which he was very fond, though never pre-eminent at the game. For years he used to spend his summer holiday on the Elie links in Fifeshire, and later he built a country house on the Wentworth Estate, Virginia Water, near the tenth green of the main course, which he named appropriately "Scotch Corner." Here, on the annual competition days for the "Paton Cup," which he had presented to St. Mary's Hospital Medical School, he and Herbert Smale would meet the tiring competitors and reinvigorate their strained nervous systems with mugs of beer. These annual holidays were much looked forward to by students and staff alike, whom Paton insisted on being his guests for the day.

Leslie Paton made few, if any, enemies, though he was highly successful in practice. His brain was brilliant and analytical, but he took his time in making up his mind. Though unknown personally to the present generation of students at St. Mary's he will be long remembered by his friends and generations of past students for his teaching, his balanced mind, and his cheery disposition.

Dr. DANIEL MILLAR, who died at his home in Rutherglen after a short illness, was a magistrate of Glasgow and for the past five years had been representative of the Dalmarnock Ward in

the City Corporation. In his youth he had worked as an engineer in a Clyde shipyard and studied to become a medical student in his spare time. Dr. Miller took the Scottish triple qualification in 1930. In 1941 he was awarded the M.B.E. for the heroic part he played in the rescue of an injured man during the heavy air raids on Clydeside. With Dr. McLaren Ord he crawled through a tunnel made among the ruins of a bombed tenement, and under the light of torches amputated one of the man's feet while the debris threatened to collapse at any moment.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

On June 1 Dr. T. Shirley Hele, Master of Emmanuel College and representative of the University on the General Medical Council, was elected Vice-Chancellor for the ensuing academical year.

Ronald Aylmer Fisher, Sc.D., F.R.S., of Gonville and Caius College, has been elected to the Balfour Professorship of Genetics from Oct. 1, 1943.

Joseph Stanley Mitchell, M.B., B.Chir., Ph.D., formerly Fellow of St. John's College under Title A, has been elected to a Fellowship under Title E.

At a Congregation held on May 22 the following medical degrees were conferred:

B.CHIR.—A. W. Capon, G. F. Panton (by proxy), F. M. P. Eckstein (in person).

UNIVERSITY OF LONDON

The following candidates have been approved at the examination indicated:

THIRD M.B., B.S.—J. D. Abbott, J. V. Aveling, A. B. Backus, T. E. Barwell, Annette G. Bauer, Margaret E. Berry, Isobel P. Beswick, Margaret A. Billinghurst, J. Birch, W. B. N. Bomford, G. L. W. Bonney, C. Boroda, P. W. Brand, A. R. Brandreth, D. B. Brewer, F. B. Bromfield, R. J. Bush, N. R. Butler, L. Capper, G. M. Coupland, W. G. Cross, J. B. M. Davies, R. G. Davies, D. Dewhirst, F. G. B. Dodd, J. T. Doyle, A. Elton, D. A. T. Farrar, T. R. Fink, H. J. W. Fisher, R. J. K. Fleming, A. W. Fowler, W. Fox, Edith V. Foyle, R. S. Francis, T. L. Frank, J. H. Friend, P. S. Fuller, D. S. Gibbs, G. H. Gilford, T. H. B. Gladstone, K. Greenwood, G. Gremson, R. F. Griffith-Evans, T. A. Grimson, D. L. Gullick, H. C. Hamilton, W. J. Hanbury, B. H. Hand, S. F. Hans, J. Hardwicke, D. M. Hare, E. J. Harries, H. J. Harris, M. F. Hart, L. W. Hefferman, Margaret I. Hendrie, K. R. Hill, E. O. Höhn, M. Holborow, F. C. N. Holden, Reba N. G. Holloway, Betty D. Holt, J. P. Hopewell, J. F. Horley, D. D. C. Howat, J. G. Howells, N. H. Howes, W. H. Humphreys, A. D. M. Jackson, G. A. James, Elizabeth M. Jenman, E. L. John, J. L. Jones, R. N. H. N. Kahan, Mary P. Karney, Madeline K. Keech, P. R. N. Kerr, M. Knowles, S. Kramer, P. L. Langton-Lockton, D. Lawrence, J. Lee, A. M. Levy, J. Lister, R. I. McCallum, I. S. MacLeod, Madeline J. MacKenzie, A. C. Macrae-Gibson, L. J. Morgan, N. F. Morris, P. B. Newcomb, Edith F. Newling, Helen M. Noble, C. C. Packman, F. T. Page, B. D. Patel, A. C. Pearson, R. J. N. Pellow, A. B. Philip, M. P. Pick, Dorothy P. Potter, Mary Pringle, G. S. Ramsay, A. J. M. Reese, S. M. A. Rizvi, M. Roth, J. W. P. Salt, Isabel B. Schooling, J. Sebel, R. E. Shaw, R. G. Sheppard, A. J. Shillitoe, Esther E. Simpson, P. J. Spencer-Phillips, D. A. Stanley, A. Stoddard, B. Stone, D. G. H. Stone, A. B. Stratton, D. F. Street, R. J. C. Sutton, J. McN. Tainsh, G. W. Taylor, M. V. P. Thomas, B. E. Tomlinson, P. A. Trafford, Frances M. Ulyatt, E. Waddington, G. Watkinson, C. E. C. Wells, H. Whitworth, E. A. Williams, J. R. F. Williams, Marion Williams, Mary F. Wright, J. A. H. Wylie, Judith C. M. Yuill, J. H. S. Zibli.

UNIVERSITY OF EDINBURGH

The Medical Faculty of the University of Poland was established within the University of Edinburgh in order to keep together a group of Polish professors, physicians, and other medical workers, to give them an opportunity for research and teaching, and generally to keep an eye on the academic spirit, so that at the end of the war Poland would have at least one active medical school. The project has already met with much success, and there is now a Polish hospital associated with it for clinical work. The course of study and the examinations are arranged to fulfil the requirements of the Polish law and so far as possible to approximate to the Edinburgh standards. At a recent ceremony in the M'Ewan Hall, attended by representatives of the University of Edinburgh and the Polish Faculty of Medicine, the President of the Republic of Poland conferred the Order of Polonia Restituta on Sir Thomas Holland, D.Sc., Vice-Chancellor and Principal of the University of Edinburgh; Prof. Sydney A. Smith, M.D., Dean of the Faculty of Medicine; and Prof. F. A. E. Crew, M.D., in recognition of the "great service which the University of Edinburgh has rendered to Poland by the invitation to found a medical school within her walls." His Excellency, in the course of his address, said that it was a historical moment when, in March, 1941, Edinburgh solemnly inaugurated the Polish School of Medicine in a memorable ceremony in that hall. He was therefore happy to express in the same place his gratitude, and the lasting gratitude of his country, to three of the eminent scientists of Edinburgh University, who were responsible in the first instance for this magnificent testimony of brotherhood and common idealism.

The Services

The D.S.C. has been awarded to Surg. Cmdr. J. L. S. Coulter, R.N., and Temp. Surg. Lieut. J. G. C. Murray, R.N.V.R.

Temp. Surg. Lieut. R. S. Slessor, R.N.V.R., has been mentioned in dispatches.

Capt. A. R. P. Ellis, R.A.M.C., has been awarded the D.S.O., and Capts. J. H. Dorman and W. G. Edwards, R.A.M.C., have been awarded the M.C., in recognition of gallant and distinguished services in the Middle East.

The following medical officers have been mentioned in dispatches: Air Vice-Marshal A. E. Panter, K.H.S.; Acting Group Capt. C. J. S. O'Malley; Wing Cmdrs. J. P. Huins, O.B.E., A.A.F., T. C. Macdonald, A.F.C., R. Thorpe, J. H. Williams, A.A.F., O. S. M. Williams; Acting Wing Cmdrs. R. W. Durand, R.A.F.V.R., J. S. Wilson; Squad. Ldrs. H. S. Barber, D. G. Evans, R.A.F.V.R., K. B. Redmond, (Mrs.) A. L. J. Dovey, D. Stafford-Clark, R.A.F.V.R.; Fl. Lieuts. J. L. Morgan, R.A.F.V.R., T. Hepburn, R.A.F.V.R.

CASUALTIES IN THE MEDICAL SERVICES

Capt. SAMUEL DAVID CORRY, who has died of wounds as a prisoner of war, studied medicine at Belfast, graduating M.B., B.Ch., B.A.O. of Queen's University in 1938. He joined the R.A.M.C. at the end of 1939 and was promoted twelve months later. He was mentioned for gallant and distinguished services in the *London Gazette* of April 3, 1942, and was reported missing after the Dieppe raid.

Flying Officer ARCHIBALD CLARK WARNOCK was killed in a flying accident on May 7. He was born in Dec., 1917, studied medicine at Glasgow University, and qualified M.B., Ch.B. in Oct., 1940. After holding house appointments at the Royal Infirmary, Glasgow, and at Motherwell, he was appointed to a commission in the Medical Branch of the R.A.F.V.R. in May, 1942. At the time of his death he was medical officer to a Fighter Squadron.

Died of Wounds.—War Subs. Capt. W. D. Miles, R.A.M.C.

Prisoner of War.—Major W. M. Stewart, R.A.M.C.

Wounded or Injured.—Temp. Surg. Lieut. R. B. Stark, R.N.V.R.

Medical Notes in Parliament

REORGANIZATION OF MEDICAL SERVICES

In the House of Lords on June 1 Lord DERWENT initiated a debate on the Beveridge report and the medical services. He moved that as the medical provisions of the Beveridge plan concerning the future status of doctors and the medical treatment of the population in general did not appear to be designed to further the best interests of British medicine or of the population, the Government should not adopt them without careful examination. He quoted the address by Dr. Hill, Deputy Secretary of the B.M.A., at a meeting of the Metropolitan Counties Branch of the Association on the tentative proposals of the Government for implementing Assumption B of the Beveridge report.

Lord DAWSON pointed out that the organization of a comprehensive medical service was no new subject to the medical profession. It had been under consideration since 1920, but the demand for it had always been received by Governments with deaf ears. It was not till the Beveridge report came out that any idea of a comprehensive medical service was put on the political map. The Government had introduced a state of haste and hustle into what, in the words of the Prime Minister, should be a gradual process spread over four years, and they expected the whole medical profession to be turned upside down in six weeks. All he could say was that it was not going to happen so long as they were there to prevent it. It was the duty of the medical profession to devise the best service on its merits which would bring about that improvement in the health of the nation which all were agreed in desiring. It would be disastrous if doctors were regarded as agents to control benefit in the interests of the social security fund.

The first and most important thing to do was to bring together preventive and curative medicine into a single service, so that the furtherance of health, and especially the personal health service, would be brought within the ambit of medical practice, both individual and institutional. Preventive and curative medicine should be brought into the structure of every teaching hospital and occupy an important part of medical education. The second foundation was a pattern of health and interrelated hospital services, distributed according to the needs of

the population, in areas sufficiently large to secure a good and efficient service, with, at the head of each area, a key hospital which would afford intellectual leadership to the whole area. That would be done by close co-operation between the local authority and the voluntary hospitals working together in partnership.

Local Administration

Lord Dawson admitted local government in some form to be the seat of the ultimate administrative authority. That would not only conform to constitutional usage, but to the fact that local government already administered health services and its own hospitals. On the other hand, the voluntary hospitals, which had the bulk of the experience, demanded their partnership, and the medical profession would refuse to accept such local administration unless the latter were guided by representative expert bodies. It was not to be expected that a learned profession was going to give up its freedom to think and do as it considered best. The only way of solving the difficulty of the local authority being accepted as the ultimate administrative agent was by having at the elbow of each health authority in each area an advisory council consisting of representatives of the staffs of local government and voluntary hospitals, a considerable proportion of whom would be medical men.

As a profession they would support the proposal that health services and hospitals must be referred to a larger health authority corresponding to each area. This would involve a combination, in many instances, of major local authorities for that purpose. Provided that authority followed the precedent of the education authority and permitted the co-option of a minority of non-elected members—people chosen from among those who had special knowledge and experience of the subject—he believed that along those lines a practical scheme lay. If, in addition, side by side with each area authority, there was an advisory body such as that to which he had referred, and if the principles of health and hospital authority were laid down by Whitehall, he believed that in some such alliance was to be found a solution of their difficulties in regard to hospital services. Not the least of the merits of these area advisory bodies would be that they would bring together the leaders of all kinds of hospital and health services whether they belonged to the local government administration or to voluntary hospitals. It would take two years of patient work to bring about agreement on the many conflicting interests.

Meanwhile hospital and consultant services would be remunerated by appropriate salaries, and holders of these posts would serve on a part-time or a whole-time service, according to choice and circumstances. During the foundational two years they would see where lay the advantages and the disadvantages of a part-time or whole-time service. In regard to hospitals, though every patient would have the same essential treatment, it would be wrong for them all to have the same dead level of amenities and accommodation. The Beveridge plan only provided essentials for the hospital service. One of the things they were most proud of in their hospitals was that every patient in essentials received the same standard of treatment, and, while they secured equality, for Heaven's sake let them avoid a deadly uniformity.

Turning to health centres, Lord Dawson said that Government after Government had treated the matter with complete indifference, and now at the last moment the Minister of Health woke up and talked about health centres dotted about the country when they had never put the health centres to the test of experience. Although he believed they opened a big field of usefulness for the public, he would be a foolish man who would put health centres into service till he had tested them out and proved whether they were good or bad, and had improved them in the light of experience. Therefore when he saw health centres being used as an excuse for the bringing in of a whole-time salaried service he became suspicious.

Hustle of Political Exigency

The medical services sponsored by the different Government Departments must come in under the same umbrella and be governed by the same broad principles of policy under the Ministry of Health. They could have no contracting out. He referred, for instance, to mental health, to the school medical services, and to industrial medicine of the Ministry of Labour. The Ministry of Health had given way to the hustle of political exigency and was trying to put up a structure in a few weeks which it was beyond the wit of man to do. It would be nothing but a jerry-built structure if anybody tried to build it in its completion now. If that were attempted it would arouse a degree of antagonism and distrust which would bring any scheme to the ground. He referred in particular to their discovery of the idea of a whole-time salaried State service for all doctors as being in the departmental mind. Without the foundations of the service even being laid, to endeavour to enclose all doctors within a bureaucratic ring fence was sheer madness. It might be right ten years hence, but it was sheer madness now. The very mention of it had already produced a degree of distrust and antagonism which, unless something was done to allay it, would bring permanent harm to the prospects of peace. Doctors would not take employment with a local authority naked and unadorned, at any rate not now. There was too much distrust. The medical profession would not consent to be pawns on the local government chessboard. They would not consent to have a highly skilled profession governed by laymen ignorant of medicine who had been elected on a totally different ticket.

In the endeavour to be constructive a great deal of time had been given to reconciling these two difficulties, and it could be done by each local authority setting up a special local health authority with a co-opted minority to act as an advisory council. Its members should include doctors in private practice and hospital experts, including representatives of local government hospitals, because the doctors in those hospitals suffered from having too little power. They had no medical council, and were under the medical superintendent and all the tyranny that that represented. They wanted a change. Let them all meet as an advisory council. It should be made statutory that local authorities must give serious attention to their advice, and then he would be content to leave the decision to the local authority. But all that machinery would come to the ground if anybody suggested such a ridiculous scheme as whole-time State salaried service for the whole medical profession. He admitted that with the passage of time many of them might alter their ideas with regard to the relative merits of whole-time and part-time service. He believed that in the course of the next few years professional earnings would consist of a larger proportion of salary than hitherto and a smaller proportion of fees. That did not frighten him, provided it was done freely in the light of experience.

A Medical Council

Lord MORAN, in a maiden speech, said all activities concerned with health should come under one department and not under six departments, as at present. It was essential that in the Ministry of Health civil servants who were not doctors, and doctors who had long been divorced from the work of medicine by administrative duties, should keep in close touch with those actively engaged in the practice of their profession. How could that be done? He thought advisory committees had become rather discredited in the profession. They appeared to have little power, and the Minister was apt to lose interest in their activities so that sometimes they did not meet for six months or even a year. He had in mind a medical council which should help to frame the policy of the Minister. It should meet regularly and not deal with a fragment of policy every six months. It should deal with all questions of general policy that came up. It should be free to publish from time to time uncensored reports of its activities. Such a council might be composed, say, of twenty medical members—fifteen perhaps elected by the profession and five appointed by the Minister, including the Ministry's Chief Medical Officer. The council would elect its own chairman. He hoped that the Minister would give this council real power. The real opposition to the proposals for a comprehensive medical service was based on the objection of the medical profession to become employees of local authorities. If that was to be overcome it was clear that there would have to be some machinery for referring disputes between the authority—whoever that might be—and the doctors working for that authority to some central court of appeal, and this council might very well act as that court of appeal. Further, a subcommittee of the council could act as an appointments bureau, finding posts for doctors in the parts of the country in which they desired to settle and providing for the authority lists of suitable applicants. It could also administer a superannuation scheme for every doctor in the service, if the service did eventually come.

The second essential was clearly that the conditions under which the rank and file of the profession worked must be made as perfect as they could be made. If doctors, instead of practising at their own houses, were to be banded eight or nine together, and were to see patients at some house built for the purpose, with facilities for diagnosis and with consultants' services at their elbow, they would breathe again that atmosphere of their student days in the wards, and it would be a great gain to the community. The fact must be faced that the majority of doctors at the present time were opposed to these health centres. Certainly members of the public were highly suspicious of them, and on very good grounds. None of these centres had been built. There would be plenty of time to try them out. The question of the local authority was really a thorn in the flesh of the profession. Perhaps the country could be divided into ten or twelve regional administrative units, each

working with a university, and from which all local feeling and influence would be excluded. It would be useless to try to dragoon doctors to work under local authorities unless some measure of reassurance could be given them that what was to be done would not interfere with the proper work of their profession.

Consultant Service

The third essential was that there should be a really good consultant service. There was general agreement that everyone, whatever his means, must be able to get consultant opinion when necessary. There were not enough consultants at the present time, and those available were not distributed according to the needs of the community. To get over the difficulty in this connexion they must know how many consultants there were and where they were. They must have a list. No such list existed at the present time. Three Royal Colleges had agreed to draw up such a list for the Ministry of Health. In the first instance, this list or register must be drawn up on one criterion only: the approval of the profession in the man's neighbourhood that he was a proper consultant. It followed, therefore, that all these lists must be drawn up locally; and in the twelve university cities in England, Wales, and Northern Ireland committees were now sitting. The Vice-Chancellors of all those universities had consented to act as chairmen of those committees. When this list was complete a very different state of affairs would follow; any man who aspired to be a consultant after that, and to have his name added to this list, would have to pass the very strictest scrutiny. He would have to satisfy a board that he had done the years of special training required, and that he was competent to act as a consultant. When all this was done, and when everyone was able to obtain the services of a consultant who had had a proper training, it would be the greatest single step in advance in his own lifetime.

Lord GEDDES said that the only thing that could be done at present to get the medical profession out of the state of alarm which existed was for the Government to make it quite clear that they did not intend to turn every registered medical practitioner into a whole-time servant of the State—because that was what was feared, and not by members of the medical profession alone. There was now developing in this country a rather violent reaction against bureaucratic interference in private life. It was the fear of that bureaucratic interference in private life which was making a very large number of people anxious about the Government's proposals, and about negotiations now proceeding between the Government and the medical profession.

Government Reply

Lord SNELL said he had not really gripped what particular sin the Government had been guilty of in this matter. The principle enunciated in the motion—namely, that any proposal for comprehensive health service should be carefully examined and that no hasty decision should be taken—was precisely the policy of the Government. It was enunciated with perfect clearness by Sir John Anderson in the House of Commons on Feb. 16. The motion implied that the Beveridge report contained detailed proposals about the future status of doctors and the medical treatment of the population, but the Beveridge report itself expressly declared that the problem of the organization of a complete health service was outside the scope of the report. Lord Moran had spoken about the reluctance of medical men to become servants of local authorities. With some knowledge of English local government he (Lord Snell) stated quite firmly that that was not his experience. It was not the experience of any member of a selection committee of a local authority. Lord Geddes had suggested that the whole idea of a salaried service should be abandoned. The Government had made no final decisions about this matter. To the suggestion that a Royal Commission should be appointed without delay the answer was that discussions were proceeding with the medical profession, and if it should turn out that a Royal Commission would be the best instrument the Government would look at it in that sense. The medical profession was being consulted at every stage. The Government had initiated discussions with groups representative of the medical profession, the voluntary hospitals, and the major local authorities, and it was expected that before long the Minister would be able to review the question of organization and to formulate further proposals for public discussion. It was not intended that the decisions so far made should be final or binding.

The Government were not trying to rush this question. They were allowing full opportunities for calm and full discussion.

Industrial Accidents.—Accidents reported under the Factories Act were: 1939, 1,104 fatal and 192,371 non-fatal; 1940, 1,372 fatal and 230,607 non-fatal; 1941, 1,646 fatal and 269,652 non-fatal; and for 1942, 1,363 fatal and 313,267 non-fatal. The percentage of such accidents to the total employed was roughly 3.4 in 1940 and 3.8 in 1941.

No. 20

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended May 22.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	,1943					1942 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	68	2	19	2	2	158	8	40	4	10
Deaths		2	1				1	1		
Diphtheria	619	41	162	65	19	653	40	171	46	19
Deaths	12	2	1	1	—	13	—	1	3	—
Dysentery	146	18	73		—	97	6	41		—
Deaths				—	—		—	—	—	—
Encephalitis lethargica, acute	—	—	—	1	—	1	—	—	—	—
Deaths		—	—				—	—		
Erysipelas			42	9	1			42	5	2
Deaths	—	—				—	—	—		
Infective enteritis or diarrhoea under 2 years				13					54	
Deaths	63		6	9	3	40	6	6	9	—
Measles	8,377	430	561	17	33	6,437	761	590	115	331
Deaths	7	1	3	—	—	10	—	6	1	—
Ophthalmia neonatorum	97	5	17		—	89	2	34		1
Deaths										
Paratyphoid fever	4		1		—	3		6		
Deaths	—		—		—	—		—		—
Pneumonia, influenzal*	672	38	4	—	3	1,137	50	16	2	14
Deaths (from influenza)	15	3	1	1	—	14	—	4	1	1
Pneumonia, primary			208	23				307	24	
Deaths		26		13	12		—		14	12
Polio-encephalitis, acute	—	—				2	—			
Deaths		—					—			
Poliomyelitis, acute	7	—	1	3	—	4	—	1	—	—
Deaths		—					—	—		
Puerperal fever		2	15		—		4	11	2	1
Deaths		—					—			
Puerperal pyrexia	183	7	18	1	7	187	8	15	—	1
Deaths										
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	1,740	155	250	49	41	1,122	45	177	51	14
Deaths	—	—	—	—	—	—	—	—	—	—
Small-pox	—	—	—		—	—	—	—		—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhoid fever	12	1	2	15	1	5	—		4	1
Deaths	—	—	—	—	—	1	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—			—	—	—
Whooping-cough	2,446	128	287	14	36	1,267	137	63	64	18
Deaths	15	1	4	1	1	13	2	3	—	—
Deaths (0–1 year)	375	53	63	46	27	329	37	65	41	19
Infant mortality rate (per 1,000 live births)										
Deaths (excluding still-births)	4,454	637	627	242	143	4,434	619	664	229	132
Annual death rate (per 1,000 persons living)			14·1	15·9	†			14·9	15·3	†
Live births	6,985	817	1,037	389	345	6,140	705	904	459	307
Annual rate per 1,000 persons living			21·2	25·6	†			18·7	30·6	†
Stillbirths	221	18	34			237	22	43		
Rate per 1,000 total births (including stillborn)			32					45		

* Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

† Owing to evacuation schemes and other movements of population, birth and death rates for Northern Ireland are no longer available.

Medical News

A meeting of the Fever Hospital Medical Service Group of the Society of Medical Officers of Health will be held at Tavistock House, Tavistock Square, London, W.C.1, at 3 p.m. on Friday, June 18. The subject for discussion will be "Diphtheria—Some Problems of Administrative and Clinical Control." Opening speakers: Dr. J. A. Scott (M.O.H., Fulham Met. B.), Dr. N. D. Begg (Med. Supt., Eastern (L.C.C.) Hospital), and Dr. R. Cruickshank (Group Pathologist, L.C.C.). A cordial invitation to attend is extended to members of the Metropolitan Branch of the Society.

The House of the British Medical Association will be closed from Friday, June 11, 6 p.m., to Tuesday, June 15, 9 a.m.

On Thursday, June 17, at 4 p.m., Mr. F. J. Chittenden will give a Chadwick Public Lecture on "Plants causing Irritation," at the Chelsea Physic Garden, Swan Walk, S.W.3. Admission is free without ticket.

At a meeting of the British Association of Physical Medicine, held on May 25 at the Medical Society of London rooms, Lord Horder presiding, the election of the Council was completed. The following are its members, who will hold office until the annual meeting: Drs. F. Bach, L. D. Bailey, P. Bauwens, W. Beaumont, Wing-Cmdr. Bromley, Drs. Hugh Burt, F. S. Cooksey, E. J. Crisp, C. B. Heald, Geoffrey Holmes, Lord Horder, Brig.-Gen. F. D. Howitt, Dr. James Mennell, Major J. W. T. Patterson, Dr. M. B. Ray, Sir Morton Smart, Dr. Kenneth Stone, Major Tegner, Dr. Dorothy Wood, Sir Robert Stanton Woods. The Council was authorized to draft a declaration of the objects of the Association; the rules as to membership, procedure, etc., to be guided in these matters by resolutions passed at the previous meeting on May 5. It was also empowered to appoint the officers of the Association.

The attention of doctors generally, but especially of those in London, is drawn to yet another activity of the Joint War Organization of the British Red Cross and the Order of St. John. At 25, Cadogan Square the organization has established a sick-bay for the care of civil defence workers of both sexes and of Red Cross and St. John personnel who are not ill enough to go to hospital but need a brief period of nursing in bed. There are 26 beds for patients suffering from such conditions as influenza, acute bronchitis, jaundice, minor accidents, and overstrain, and patients needing a few days in bed after discharge from hospital are also admitted. Two doctors are attached to the sick-bay and a trained nurse is in charge, but patients can be admitted under the care of their own doctors if they wish. No charge is made, but of course a donation to the funds of the organization is most acceptable.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* whooping-cough notifications rose by 340, measles by 345, and dysentery by 48, but there was a decline of 40 in acute pneumonia.

Five Northern counties recorded rises in whooping-cough: Lancashire 87, Yorks West Riding 61, Warwickshire 53, Cheshire 48, Derbyshire 44.

The higher incidence of measles contrasts with the trend during the preceding seven weeks, when the cases fell by 11,529. Especially notable were the rises in Staffordshire 182, Northamptonshire 91, Northumberland 74, Kent 72, and Shropshire 55. Fewer cases were notified in a number of counties, and the largest declines during the week were in London 88, and in Norfolk 76.

The higher figure for dysentery was due mainly to sporadic cases. In Gloucestershire cases rose from 9 to 19 (all in Bristol C.B.), in Lancashire from 23 to 37, and in Yorks West Riding from 2 to 12. Six county boroughs in Lancashire accounted for 29 of the county total (Manchester C.B. 12). The 12 cases in Yorks West Riding occurred in six administrative areas.

In *Scotland* notifications of dysentery rose from 41 to 73: city of Aberdeen 24 cases, and Banff county 23. In the eastern area 32 cases of diphtheria were recorded, compared with 14 in the preceding week. There were 19 more cases of whooping-cough, but the notifications in Glasgow fell by 31.

In *Eire* the notifications of diphtheria were the lowest of recent months, but those of typhoid were the largest—the 15 cases being reported from eight administrative areas (Kerry, Tralee R.D. 6).

The Week Ending May 29

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,997, whooping-cough 2,233, diphtheria 712, measles 7,395, acute pneumonia 760, cerebrospinal fever 80, dysentery 116, paratyphoid 10, typhoid 5.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1.

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ANY QUESTIONS?

Oral Blood-blisters

Q.—*A lady aged 72 suffers from recurring blisters on the lips, hard palate, and pharynx at irregular intervals. The blisters appear quite suddenly, usually singly, and are filled with blood-stained fluid. She is of an emotional type but is in fairly good health. What treatment is recommended?*

A.—The recurrence of solitary blood-stained vesicles on the lips in an emotional subject is most suggestive of an unconscious autophytic phenomenon, and a sedative bromide mixture would probably be the best method of treatment. On the other hand, the patient may be allergic to some food or tooth-paste, and this would explain the oedema, which, presumably, accounts for the hard palate and pharynx. The solitary blood-stained lesion is against the diagnosis of allergy, but, presuming the condition is an allergic one, calcium and vitamins A and C might be tried.

Addiction to Nutmeg

Q.—*I have just come across a very strange form of addiction in a man whose general health and appearance are bad. He continually chews nutmegs. I should be glad to have any information about the harm that might accrue through this habit.*

A.—On page 168 of the 1942 edition of Sollmann's *Manual of Pharmacology* the following paragraph appears under the heading of "Nutmeg Poisoning": "In man severe symptoms have occurred from one to one and a half nutmegs, or from a teaspoonful of powdered mace. The effects appear in one to six hours, and are mainly narcotic, varied by excitement and delirium, with some motor stimulation and local irritation; they usually end in recovery in twenty-four hours. Nutmeg is also ecbolic. Similar effects occur in animals. Hepatic necrosis has been demonstrated in cats (Dale, 1909). Cushny and Wallace, 1908, showed that the narcotic effect is produced by 'myristicin,' the high boiling portion of the volatile oil. The oil has been investigated chemically by Power and Salway, 1908. *Myristica*, U.S.P. (nutmeg) is the ripe seeds of *Myristica fragrans*. Dose, 0.3 to 0.6 g., 5 to 10 grains. The *Oil*, U.S.P., is distilled from the seeds. Dose, 0.06 to 0.2 c.cm., 1 to 3 minims, *B.P.* The *Spirit* represents 10% of the oil. Dose, 0.3 to 1.2 c.cm., 5 to 20 minutes [*sic:* presumably minims]."

The Colour of a Bruise

Q.—*A bruise passes through various hues to reach a jaundice-yellow colour. Shed blood and blood massively segregated in the body in cysts and blood-blisters do not undergo these pigmentary changes. What causes the changes, what cells are concerned, and is the process similar to bile formation by the liver?*

A.—No pigmentary changes occur in shed blood unless as the result of decomposition. The haemoglobin from blood in an enclosed body cavity or space is acted upon only by tissue enzymes, and the new pigment formed is haematoidin, which gives such material its chocolate-brown colour. Red cells effused into connective tissue are attacked by histiocytes, which form bilirubin from them, the yellow colour of such an area being due to the presence of this pigment. Whether bile pigment is formed from extravascular blood therefore depends on whether it is accessible to the phagocytic cells of the reticulo-endothelial system. Bilirubin so formed in any part of the body (a process which is normally continuous owing to the removal of effete red cells from the circulation) is excreted by the liver in the bile.

Pathology of Atypical Pneumonia

Q.—*Is the condition known as primary atypical pneumonia an interstitial pneumonia?*

A.—As far as is known—yes. When it has been possible to examine histologically the lungs from cases of this condition, the

primary changes appear to have started in the alveolar walls. The exudate which later appears in the alveoli consists of serum, mononuclear cells, desquamated epithelial cells, red blood corpuscles, and polymorphonuclear leucocytes, and the consolidation, when it occurs, is not as dense as in a lobar pneumonia. The view that the condition is primarily an interstitial pneumonia is supported by the *x*-ray findings, which show as a rule either a reticular shadow or, if a whole lobe is involved, a lobar shadow of only moderate density.

Oral Administration of Liver Extracts

Q.—*As liver therapy was originally oral—raw liver, partly cooked liver, various liver extracts, etc.—is there any reason why the perfected liver extracts could not be administered orally?*

A.—It is generally agreed that the injection of liver extract is 20 to 40 times as effective as oral administration. To treat a patient with anahaemin by mouth it would therefore be necessary to give 200 mg. a day instead of once a month by injection. In other words, the cost of treatment would rise from 4s. 6d. a month to 4s. 6d. a day. It is for this reason that the Government has discouraged the oral administration of liver extracts during the war.

Treatment of Myasthenia Gravis

Q.—*A patient aged 23 years developed myasthenia gravis five months ago. Treatment with prostigmine, ephedrine, glycine, and potassium salts is being given, but loss of weight and muscular power continues. Deep x-ray therapy to the thymus gland is now contemplated. What percentage of success has been obtained with this treatment? What other lines of treatment are available?*

A.—One of the peculiarities of myasthenia gravis is the way in which different cases respond differently to different methods of treatment. There is little real evidence that glycine is of any value, but ephedrine and potassium are both useful, particularly in the less severe cases. Prostigmine has proved of great benefit, but some authorities have preferred to limit its use to the times when the myasthenic is greatly disabled by muscular weakness, and particularly when the weakness is embarrassing respiration, as it does in the actue exacerbations which are called myasthenic crises. The reason for this choice is that prostigmine increases the power at the time, but a few hours after the injection has been given the muscles may be even weaker than they were before. This effect has been likened to flogging a tired horse, and the cause may be that if, as was outlined in a leader in this *Journal* on May 1 (p. 544), an abnormal substance is circulating in the blood which destroys one of the precursors of acetylcholine, the prostigmine is merely facilitating the action of the acetylcholine which is not destroyed, and the real pathological process is going on undisturbed or may even be enhanced by the extra acetylcholine which has been made available by the prostigmine. This is, of course, pure speculation.

Deep *x*-ray treatment to the thymus has been tried on several occasions, notably at the National Hospital, Queen Square, but workers there have now discarded the method as of little value, and the procedure is not even mentioned in Davidoff and Dyke's new book *The Roentgen Treatment of the Nervous System*. A case such as the one described fulfils many of the requirements which are found desirable in advising thymectomy. Keynes, who recently reported his operative results to the Royal Society of Medicine, has found the effect to be most dramatic in the severe and acute myasthenic who shows generalized weakness. Failure to respond to medical treatment is of course another indication for operation. It is likely that even in this case prostigmine will be beneficial if given in sufficiently large doses, and Keynes has found that really enormous doses are needed to combat the acute myasthenic crisis that occurs after operation. It has been said earlier that some neurologists prefer to reserve the use of prostigmine for these crises, and if operation is considered it would be well to withhold this substance until the patient is handed over to the surgeons. Provided the patient survives the immediate post-operative stage, which is usually critical, the results of operation in this type of case have been dramatic.

INCOME TAX

Appointment—Receipts "in Kind"

"P. Q." is a married woman employed as an assistant at a salary plus "full residential emoluments" for herself and her husband. Is her or the husband's keep liable to tax?

*** The value of neither her own nor her husband's keep is assessable; but the result would be different if the terms of the engagement provided for a gross amount of remuneration, subject to deduction for the "keep" provided, as in that case the gross amount is liable to assessment. (The fact that the cost of the "keep" is not assessable on the recipients does not affect the principal's right to treat it as a professional expense.)

Wife's Part-time Earnings

E. W.'s wife has done 12 weeks part-time work as dispenser to the partnership and has been paid £30. He asks, "Do I pay full rate of tax on this?"

*** There is a special personal allowance (in addition to the ordinary "married" allowance of £140) up to a maximum of £80 in respect of a wife's earnings. Mrs. E. W.'s earnings of £30 are covered by this £80 and there is accordingly no liability to tax thereon.

War Damage Contributions

J. A. B.'s claim to deduct as professional expenses the contributions paid under the "business scheme" and in respect of the professional portion of the premises has been refused. Is this correct?

*** Yes; such deductions are expressly forbidden by Section 84 of the War Damage Act of 1941. (The reason for this is presumably that the Government have undertaken to contribute to the Fund from the Exchequer, and to permit deduction for income-tax purposes would in effect amount to a further contribution from the Government revenues.)

Necessitous Practices Fund

"X. Y." Owing to a long period of illness this correspondent received a sum of money from the special fund for "necessitous practices" of the National Health Insurance Committee, for one year. Is this liable to tax?

*** The grant is liable to tax if it can be claimed as of right, or if, though not so claimable, it has been made substantially in respect of the services rendered by the practice. "X. Y." might like to put the facts before the Board of Inland Revenue (address: Imperial Hotel, Llandudno) for their ruling; we would not advise contesting the decision if it should be adverse.

LETTERS, NOTES, ETC.

Wheeled Stretcher Carrier

Col. J. GRAHAM MARTIN, A.M.S., T.A. (ret.), writes from Liverpool: Neither Lieut.-Col. C. A. Whitfield (May 22, p. 648) nor Dr. K. Vernon Bailey is probably aware that a wheeled stretcher carrier was in use by the British Army during the South African campaign, 1899–1902, but not exactly of the same type, as the wheels were much larger and shod with solid rubber tyres. I have vivid recollections of being transported on such a wheeled stretcher across the veldt and over the railway line in Natal in 1900. I always found it most useful in moving patients and also equipment.

Wheeled Stretcher for Resuscitation

Surg. Lieut. J. C. BULSTRODE, R.N.V.R., writes: I was impressed by the suitability of the wheeled stretcher described by Dr. K. Vernon Bailey (May 1, p. 542) for use in Dr. F. C. Eve's method of resuscitation of the apparently drowned (May 1, p. 535). The provision of a stretcher of this type, preferably to carry one patient, would be of great value not only for transporting injured in dockyards where railway lines and other obstructions are common but also for the early institution of Eve's method of resuscitation. The treatment of the apparently drowned could be commenced at the dockside by Schäfer's method. On arrival of the stretcher, equipped with blankets and webbing straps for the wrists and ankles, the patient could be transferred to it and rocking started. There is no reason why the loaded stretcher should not then be wheeled to the nearest shelter, whilst rocking is continued, thus minimizing shock due to exposure.

Interstitial Emphysema of the Hand

Dr. R. JOHN GOURLAY (Menston) writes: One evening a patient aged 55 came to my surgery complaining of swelling of the left hand. That morning, while breaking up some lumps of salt with a sharp-pointed knife, she had inflicted a wound on the dorsal aspect of the thenar space. The wound was clean and 1/4 inch long. The back of the hand was considerably swollen, but not red; there was no pain and no sign of infection. On palpating the swelling fine crepitations were felt on the back of the hand and on the back of the first two fingers as far up as the first joint. On tapping the palm of the hand with my finger a hollow sound was produced. Gently I compressed the swelling towards the wound, and had the satisfaction of hearing distinctly the sound of air escaping. A clean dressing was applied to the wound and the patient made an uneventful recovery. It would appear that, owing to the oblique direction of the wound, a valvular mechanism had been instituted which, on movement of the thumb and forefinger, had caused air to be drawn into the subcutaneous tissues of the hand.

Disclaimer

Miss IDA MANN, D.Sc., F.R.C.S., wishes to state that certain irresponsible articles in the Press have mentioned her name (particularly an evening newspaper on June 4) and that this was done without her knowledge or consent.